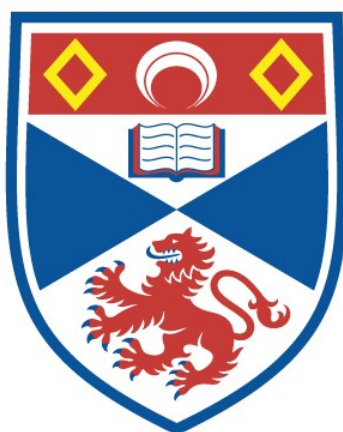


EDUCATION FOR SUSTAINABILITY THROUGH ACTION
RESEARCH: AN EXPLORATION THROUGH THEORY, POLICY
AND PRACTICE IN SCOTTISH SECONDARY SCHOOLS

Zoé Alise Lloyd

A Thesis Submitted for the Degree of PhD
at the
University of St Andrews



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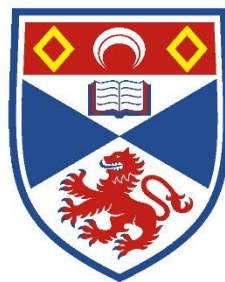
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Education for sustainability through action research: an
exploration through theory, policy and practice in
Scottish secondary schools

Zoé Alise Lloyd



University of
St Andrews

This thesis is submitted in partial fulfilment for the degree of PhD
at the
University of St Andrews

December 2015

Declaration

I, Zoé Alise Lloyd hereby certify that this thesis, which is approximately 80 000 words in length, has been written by me, that it is the record of work carried out by me and that it has not been submitted in any previous application for a higher degree.

I was admitted as a research student and as a candidate for the degree of Doctor of Philosophy in February 2009; the higher study for which this is a record was carried out in the University of St Andrews between 2009 and 2015.

Date..... Signature of candidate

I hereby certify that the candidate has fulfilled the conditions of the Resolution and Regulations appropriate for the degree of Doctor of Philosophy in the University of St Andrews and that the candidate is qualified to submit this thesis in application for that degree.

Date Signature of supervisor

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Abstract

Environmental deterioration and social injustice highlight the discrepancy between 'educated' and 'wise' and, by corollary, call into question our approach to education. In order to investigate how we might advance Education for Sustainability (EfS) in a Scottish secondary school context this research engages with: relevant theory, the educational policy context, and practice in the form of two action research pilot projects. The concepts of utopianism and design are proposed as original and potentially useful to understand, guide and evaluate EfS and are linked to an analytical framework to clarify the concept of EfS endorsed in this thesis.

The analytical framework developed comprises four thinking modes: systems thinking; future thinking; an emphasis on values and priorities; and action competency, each qualified through reference to practice. The pilot projects highlighted the challenges of monitoring and evaluating; illustrated opportunities and challenges to deliver EfS theory; offered new theoretical insights into EfS implementation; and enabled reflection on the status of EfS in the wider curriculum. The challenge of undertaking action research as a postgraduate student led to critical analysis of action research in academia.

The thesis highlights the potentially promising policy context to facilitate EfS, particularly in Scotland, but also the practical challenges to implement EfS. Such challenges include: concerns over the clarity of policy documents; teachers' interest and ability to facilitate pupil-led learning; and resources to support the quality of EfS being delivered. Recommendations for future research include additional classroom-based projects; policy implementation analysis; and investigation of teachers' values, attitudes and capacity. It was concluded that utopianism, design, and the four thinking modes can potentially contribute to qualifying EfS in current policy and facilitate pupils to critique the *status quo*, and develop and share alternative visions of a sustainable future.

Acknowledgements

This thesis is dedicated to Benjamin.

One day I will tell you what an influence this thesis had on your life and all the people who helped me along the way.

I'll tell you about meeting your Dad at University. So I wish to thank my wonderful husband, for challenges and joys, and for your support and sacrifices during my stresses as a PhD candidate.

Granny, Grampa, Uncle Rowan and Uncle Robin made my final corrections a delightfully enjoyable time for both of us. I'm very grateful to my family whose involvement was far greater than I ever would have imagined. I would have definitely have given up if it were not for my wonderful, kind and inspirational mum.

You will see more of the friends who not only helped me along the way and challenged my thinking but made life as a PhD candidate enjoyable...You know who you are!

Your due date and my date for submission were the same. A couple of days before your birth I had one of many inspiring and encouraging conversations with both my supervisors. I was excited about finishing the thesis in a few weeks and an ever empathetic Rehema suggested I would need to take some time off if I didn't finish before your arrival. The confidence I could finish in a couple of weeks was shortly followed by suspicion of high blood pressure and the first signs of pre-eclampsia. During the emergency caesarean section that followed I heard the consultant say that "every cloud comes with a silver lining", referring to the knotted cord around your neck as we were both saved by modern medicine. I hope that you will look on the bright side and have faith in the goodness of others, an influential attitude underpinning this thesis. So thank you supervisors, not only for your academic input to the thesis but also I'm very aware that my stresses experienced as a PhD student were shared by both of you.

You'll know that I'm now interested in becoming a secondary school teacher. Thank you to the two inspiring teachers involved in running the pilot projects. I do hope that one day we will be able to continue our learning related to the pilot projects. Of course, I am also extremely grateful to all the pupils involved. Thank you for making me feel so welcome.

Further acknowledgements must extend to both markers of the thesis: your comments helped me consider the thesis in a new light, gave me essential confidence and resulted in significant improvements. In retrospect I made many mistakes in approaching the thesis and I felt that you focused on possibility rather than solely the mistakes, and as such your influence was integral to the learning as a PhD candidate.

Little did I know that it would take the best part of three years after your birth to submit this thesis again. Surprisingly since your birth, and working for two or three hours a day on the thesis (and maybe a couple more during the night) the thesis has changed dramatically in form and content. I look back on my immersion in the thesis during the years before your birth and can see that I was not working productively, perhaps I was trying too hard and never took a break. The importance of not letting life rush by without de stressing was the lesson I learnt and one I hope I can impart to you. However, I also celebrate the naïve and idealistic passion and obsession with the thesis and the energy that ideas can inspire. I hope one day you and your friends will be excited about your own aspirations for sustainable development and notions that you can change the world...

“The worst dangers and the greatest hopes are borne by the same function: the human mind itself. And this is why a reform of thought has become a vital necessity”

Edgar Morin

"Education is the most powerful weapon which you can use to change the world"

Nelson Mandela

“Hope is definitely not the same thing as optimism. It is not the conviction that something will turn out well, but the certainty that something makes sense, regardless of how it turns out”

Vaclav Havel

“A map of the world that does not include Utopia is not worth even glancing at, for it leaves out the one country at which Humanity is always landing. And when Humanity lands there, it looks out, and seeing a better country, sets sail. Progress is the realisation of Utopias”

Oscar Wilde

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Personal Introduction

It is difficult to believe, as I sit in the library amongst students preparing for the future, the extent of the destruction of our planet, inequality and poverty. Educated and wise are not synonymous. Reference to the Chinese symbol for crisis, which has two meanings: danger and opportunity, is apposite.

I began my research with the questions: what can be drawn upon to defend a belief in a better world? and, followed by, how can the strategy to contribute to such an ambition be of any practical significance?

The subsequent questions that frame my PhD research are identified in the following chapter and their development justified in the methodology chapter. As is the tradition for the epistemological position from which this thesis is written, framed through reference to action research, I commence with a personal reflection on the influences behind the research generated outwith academia.

The utopian impulse pervaded my childhood and characterised my teenage years, something which I no longer take for granted. I expect I was considered to have a sheltered upbringing: conspicuous consumption and the various ‘false needs’ didn’t feature in my childhood until secondary school. My parents, both artists, lived on a boat and even when we moved into a house my world was divorced from the ‘dominant culture’. My parents grew their own vegetables; didn’t have a TV or car; and there were always Amnesty International magazines lying around with recipients that would be religiously written to. My mum was involved with Greenpeace and our home was always open to people from different cultures. Hazy memories of childhood include mud-fights at the beach, adventures up the hill, climbing and den building in the forest, and playing on the hay bales during summer. We all used to have bruises and scratches and would come back hungry for homemade bread and late, being driven in by midges. Hours were spent in my tree house writing unfinished novellas and scripts to engage people with what I felt was important at the time.

As a 15 year old I was passionate about ‘changing the world’. I am privileged to have experienced this time in my life. My teenage years were tarnished with compulsory education, the best part of the day spent in classes that I wasn’t paying attention to and found irrelevant. I passed my exams through work at home, competitive pupils, bitchy girls: a world removed from home life. It was, undoubtedly, a waste of precious time. I went to school in France at 16 to learn French in order to

work with Médecins Sans Frontières. I spent a few years with undetected hypothyroidism in a creative daze and ended up starting Psychology after visiting St Andrews, then changed to Chemistry, then to Sustainable Development. Occasionally I feel that I have drifted far from my teenage ideal of what I 'should' be doing. I expected that my life would be perhaps more adventurous: perhaps in a war torn country helping the 'poor'. I then developed a conviction that those living in a culture which predominately defines 'progress' through perpetuating lifestyles out of sync with the Earth's carrying capacity and the creation of a fairer world, must challenge and change. That ultimately, however tempting, I do not need to go far afield in search of problems: that some of the most urgent ones start here.

Given my privileged childhood, the concern for others to experience a childhood also underlies this thesis and has shaped my worldview. Perhaps my most heartfelt concern is that the children of today will still have hope for a better world. When I was young, I felt secure that adults were wise and that my life would be similar to that of my parents. Memories of being idealistic informed the PhD. I can't give up on that idealism. I can't reject it. I consider my whole PhD as fuelled on the utopian impulse as I investigate the design of my ideal school subject. The realisation that education is a political act, reflecting our notion of progress with great implications for the fate of our planet and the freedom of the 'less privileged', is the underlying reason for undertaking research in this area. It grew from my own experience at school, consolidated by reading Freire (see Freire, 1970; Freire, 2004).

Sitting around our wooden table that my Dad made and Mum carved, relishing the bramble jam from last autumn's blackberries, two fundamental concepts, which are still central to this PhD research, emerged. My Dad sparked my interest in design as a 'promising discipline' to teach thinking, as described in chapter three. The design of communities and lifestyles were considered equally important and relevant, if not more so, to young people as the design of photo frames and trowels in design classes at school. I remember the design of utopias emerging from this conversation. The concept of Utopia was discussed as a 'catalyst' to get students involved in the design process. Ideas and dreams would generate energy. We needed to have a holistic vision, not focus on making the world a little less bad, we needed to create a contagious environment of optimism and action, of responsibility and hope, of creativity. These ideas were dashed, 'No Dad, live in the real world', but secretly I knew that we were speaking about two simple, yet, fundamental aspects of education

that had perhaps been forgotten and were too important to take for granted. It worked so well theoretically, as addressed in the sub sections of chapter four. However, what was of equal importance was the relevance to creating a 'wiser' society in the classroom, eventually investigated in two pilot projects documented in chapter six and discussed in chapter seven. Incidentally, the relevance of my Dad as a designer, relates to the educational policy context as he designed and made the mace for the Scottish parliament, deciding on the four values to guide Scotland's government. The values are justice, compassion, wisdom and integrity and referred to in curriculum policy.

The journey has been enormous between an initial spark of interest to the write up of this thesis: it has been a very windy journey, mist has descended on several occasions, and my permission to be on this route has been challenged. However, all in all it has been interesting and raised more questions than I started with, but this is inevitable.

I begrudgingly acknowledge that the power of the individual is limited and the paradigm shift discussed in chapter two that I, and many others, consider wise is controversial and harder than rocket science. I am aware that having the energy and passion to change, seeing clearly and feeling that with knowledge comes responsibility, is not always a blessing. However, as Illich (1971, 52-104) maintains, our future 'depends...upon our choice of institutions which support a life of action...the survival of the human race depends on its rediscovery of a social force'. I frequently ask myself the following questions when unsure about what I am doing: Who would disagree that the world would not benefit if we spared time to reflect on the context, the consequences of our actions, the principles guiding our behaviour? Who thinks that we are on the right path and the future is a source of comfort? Do educational institutions have a fundamental responsibility to address, and facilitate reflection on, the trajectory of our society and our vision for the future, as such encouraging hope for a better collective future rather than despair? Would anyone disagree that an educated person should be sensitive to their actions and have found meaning in life without impinging on the opportunity for others to do the same? And most importantly, to what extent is our educational system in keeping with these answers? I hope the following discussion is considered faithful to these underlining concerns.

Despite the many challenges over the six years of study, one important personal conviction was re-affirmed: it is easy to be fuelled on potential through working with a school.

Chapter One

Introduction

1.1 Introduction

This chapter provides an introduction to the research: including the guiding research questions and key drivers influencing the research, and then the scope (sub-research questions) and structure of the thesis.

This research is driven by concern that we face unprecedented environmental and social challenges in the 21st century (Rockstrom *et al*, 2009; WWF, 2012; IPCC, 2012a; IPCC, 2012b UN, 2013) and that faith in humanity's capacity to collectively address such challenges is proving to be a contested issue, frequently providing little ground to rejoice. Such a faith in humanity's capacity is considered a vital defence against denial of the ecological crisis and resignation to current cultural trends (Georgescu-Roegen, 2002). It must, I argue, be given priority in the institutions endowed with the task of preparing 'future generations' to participate in the world. A possible contribution to how to do this, focused on education in a secondary school context, is investigated in the following discussion.

The overarching questions framing the research are: what must be considered in developing a strategy for education for sustainability (EfS hereafter) at a secondary school level?; and what conclusions can be drawn from linking theory to practice through two diverse pilot projects relevant to the implementation of EfS in Scottish secondary schools? The intention of the PhD study is to provide an evaluated model for other teachers to use, if considered appropriate; and offer suggestions for future research avenues and policy recommendations based on the pilot projects, contextualised with relevant theory and policy critique.

Critiques of our education system have helped inform and fuel my proposal that EfS is a fertile ground for critique of the *status quo* (see Sterling and Orr, 2001). A discrepancy has both intrigued and deeply frustrated me: an abundance of literature concerning the 'knowledges' that would help conceive a 'wiser society' (Morin, 1999; Wiek *et al*, 2011) and the lack of evaluated classroom projects, specifically at a secondary school level, engaging with such theory. Many critiques of our educational system are devoid of the teachers', let alone the pupils' voices. My primary concerns were how can theory, the writing that appeared so wise, be of any use: be translated

into action and integrated in a secondary school curriculum? Therefore my research questions are informed by an analysis, justified in chapter five, of academic literature and policy on EfS and by preliminary discussions with a range of people involved in the education sector. This analysis proposes:

1. Secondary school students' and teachers' voices are lacking in academia;
2. There is a discrepancy between the policy documents and what is happening on the ground;
3. There is a lack of evaluated case studies useful to teachers who wish to engage with EfS, as endorsed in this research;
4. The concept of EfS is controversial and clarity through reference to the theoretical underpinnings of EfS is necessary to advance the discussion on EfS.

As this research demonstrates, evaluating EfS in the Scottish secondary school context is challenging and has, unsurprisingly, resulted in very different, valid yet conflicting, views. The One Planet School Working Group (2012) refers to Scotland building on 'its world leading status'. However, the teachers and pupils in the second pilot project, as referred to in chapter six, indicated that EfS has low priority in the curriculum and was characterised by low expectations. Reference to policy in chapter five demonstrates a sensitivity to challenges and opportunities for EfS implementation, informed by an understanding that translating policy into classroom practice is influenced by a range of factors often resulting in, as Supovitz and Weinbaum (2008) articulate, an 'implementation gap'. The research recognises the diversity of provision in EfS. Thus the main focus of this research is the insights arising from practice during the pilot projects, and the unique contribution of working with two very different teachers, classes and schools. As highlighted in chapter five, I acknowledge that I am writing at a time of rapid and exciting educational policy change. Thus, to enable depth of critical analysis the thesis mainly focuses on current thinking and policy critique spanning the time of the pilot projects starting in 2010 to 2012.

The research is driven by a commitment to: hope for the future; the empirical application of theoretical considerations around EfS, explored in an eight week and year-long pilot project in two different secondary schools; and action research as discussed in chapter three, with a key focus on reflection. At the heart of the research is an exploration into how to respond to the case for change as presented in the following chapter: and subsequently the meaning of EfS (chapter three); how to conduct research (chapter four); the relevance of theory in the classroom and

appropriate methods and criteria to monitor and evaluate EfS (chapters five and six). These themes (the case for change; EfS; the methodology; the pilot projects and monitoring and evaluating) will be returned to in the concluding chapter as they emerged as ‘threads’ woven through the research structure. The concepts of utopianism and design are proposed as original and potentially useful to understand, guide and evaluate EfS and are linked to an analytical framework to clarify the concept of EfS endorsed in this thesis. The analytical framework developed comprises four thinking modes: systems thinking; future thinking; an emphasis on values and priorities; and action competency, all qualified through reference to practice.

A distinction is made between the strategy for EfS and the pilot projects. Reference to strategy incorporates the necessary contextualisation of the two pilot projects in terms of the motives behind the research, theory relating to EfS, the conceptual framework for the pilot project and methodology, including my role in the design and delivery of the project. Reference to the pilot project encapsulates the practicalities of what was delivered in the school. My definition of EfS is developed throughout the thesis, through reference to theory, policy and practice.

The research seeks to offer a somewhat alternative perspective as a PhD addressing education, as the research was challenged and influenced by the background of my two supervisors: Seaton Baxter and Rehema White. Seaton Baxter established the Centre for Study of Natural Design, where I was based for the first year of the PhD. This Centre attracted students from various disciplines to debate and construct alternative perspectives and ways forward towards a fairer, and more ecologically and socially respectful society and world. In particular, design is considered as an expanded activity central to such an ambition and students are encouraged to be creative. Rehema White works on the interdisciplinary programme of Sustainable Development engaged with ‘critically interrogating the principles, practice and plurality of sustainable development and contributing to the evolution of innovative, interdisciplinary thinking and action’¹. The research is one of the first PhDs conducted in this new programme engaged with challenging new modes of knowledge. Thus the research was not conducted in the traditional field of education. Although the research engages with education bodies of literature, it retains the

¹ <http://www.st-andrews.ac.uk/gsd/courses/ug/sd/>

influences of alternative approaches. It thus seeks to deepen the links between classical education literature and the fields of design and sustainable development.

1.2 Scope and structure of thesis

Sub research questions were articulated to convey my contextualised understanding of the ‘ingredients’ necessary for a discussion on EfS and to guide the research presentation. Table 1 (1) presents the synthesis of the thesis, including the chapters, sub-research questions, objectives, and approach. The table seeks to demonstrate the alignment between the articulation of the research questions and the research structure. The additional information on the chapters explains the importance of the sub-questions to answering the main question. The way in which the sub-research question relates to the overarching question is emphasised in each chapter introduction.

Table 1 (1): Research structure and sub research question

Chapter Introduction	Sub Research Questions
2: The Case for Change There is an environmental and social crisis and current understanding of development is not conducive to a health generating system: not 'wise'. This chapter introduces key points to clarify the understanding of sustainable development, endorsed in this research, that informs the discussion on Education for Sustainability (EfS).	How do we fare as a society and what does 'sustainable development' mean in this research?
3: Epistemology and Methodology The crisis can be viewed as one of 'perception'. Therefore we need to consider knowledge: what we value for the 21 st century. This chapter discusses research in the context of the crisis and action research (AR) as an appropriate methodology to frame the thesis. This chapter frames the research remit, including the articulation of the evolving research questions, and normative understanding, theoretical sensitivity and ambition for the research.	What is the research remit, and what are the questions and appropriate approach to investigate the guiding questions?
Chapter 4: Knowledge and Education We need to consider the approach to knowledge appropriate for a 'wiser' future. Key aspects of 'education for sustainability' are outlined. Design and Utopianism are introduced to inform a conceptual framework for EfS that incorporates a holistic, future and action orientated approach to EfS. This chapter constructs the theoretical framework for EfS used in the pilot projects, including an analytical framework comprising the following thinking modes: systems thinking; future thinking; an emphasis on values and priorities; and action competency.	What is the role of education and understanding of EfS endorsed in this research?
Chapter 5: Policy Context and Practice Policy gives an insight into current thinking and frameworks for practitioners to interpret. This chapter discusses the extent to which Scottish educational policy and curriculum facilitate EfS, including a consideration of current practice. This chapter also serves as preparation to converse in the language of relevant policy reform and therefore as important grounding for piloting the theoretical underpinnings for EfS endorsed in this thesis.	What is the status of EfS in the Scottish secondary school curriculum?
Chapter 6: Preparation, Piloting and Evaluating Theory was translated into action in two diverse pilot projects. This chapter discusses the form and evaluation of the pilot projects emerging from the theoretical underpinnings endorsed for EfS and AR.	What form did the pilot projects take?
Chapter 7: General Discussion and Conclusion The last chapter presents a synthesis of theory, policy and practice through reflecting on the conclusions that can be drawn from the engagement with EfS. Thus the chapter returns to the normative methodological approach in light of practice; presents an analysis of the pilot projects in light of the original theory; and articulates concerns and lessons learnt relevant to policy and practice	What insights can be drawn from engaging in practice through the pilot projects built on the theoretical understanding of EfS and AR endorsed?

Research Objectives	Approach
To explicitly acknowledge the worldview from which this research was written through providing a brief but holistic engagement with the concept of sustainable development.	A synthesis of relevant theory and empirical reports to clarify the concept of sustainable development as endorsed in this research.
To analyse and reflect on AR as an approach for educational research in a PhD thesis. To clarify the development of the research questions and remit. To present a brief introduction to the methods for evaluating the pilot projects returned to in chapters six and seven.	A discussion of AR, including the underlying epistemology, key tenets and evaluation criteria as an appropriate methodology. A discussion of the development of the research questions and methods, including key stages and influential experiences in the research journey.
To analyse concepts and theoretical underpinnings for a discussion on EfS and present an analytical framework to inform the pilot projects.	A synthesis of relevant theory and thinkers to engage the reader in the understanding of EfS as endorsed in this research, including a discussion of the relevance of the concepts of design and utopianism to EfS, and four key thinking modes.
To provide an understanding of the policy context for EfS in Scottish secondary schools.	A critical review of policy and practice in order to discuss the extent that EfS is facilitated in the Scottish secondary school curriculum and frame the pilot projects with reference to current policy.
To pilot the theoretical underpinnings for EfS discussed in previous chapters through two projects in Scottish secondary schools. To present insights into teachers' and pupils' approaches and understanding of the pilot projects.	A documentation of the form, timeline of the pilot projects and evaluation strategy. An overview of the feedback relevant to how teachers, pupils and myself understood and approached the pilot project.
To reflect on the form of, and lessons learnt relevant to, AR through practice in an educational (secondary school and PhD) context. To reunite theory and practice and critically analyse the contribution of theory to practice and practice of theory, in terms of the nature of EfS developed in practice and issues related to pedagogy. To conclude with suggestions and recommendations for a third pilot project and broader future research to facilitate EfS.	An articulation of key considerations for EfS; A discussion on the methodological approach; A discussion on EfS through reference to the theoretical framework for EfS and insights arising from practice, and the pedagogical insights and concerns relevant to practice and policy; Suggestions for future research avenues and policy recommendations.

The initial chapters, one to five, contribute to clarifying and developing a conceptual framework for EfS, which informed practice through two diverse pilot projects as documented in chapter six. The positioning of the third chapter, the methodology, stems from a recognition that the epistemological approach permeates the thesis, including the style of the write up and understanding of EfS. Thus it was deemed appropriate to stray from the traditional research structure and acknowledge the epistemological grounding for the research earlier than is the norm. An appreciation of key tenets of 'action research' has underpinned this research, including: the focus on lived experience; an appreciation of the subjectivity of the researcher; a commitment to social change; and a desire to transcend traditional dualisms common in traditional academic research, as addressed in section 3.2 (see Robson, 2002; Brydon-Miller *et al*, 2003; Herr and Anderson, 2005). The following three chapters are introduced with a 'starting reflection' that embodies the ambition to share the personal research journey as endorsed in the methodology chapter (Lotz-Sisitka and Burt, 2002). The 'starting reflections' refer to conversations that informed my approach to the chapters. The inclusion of such reflections acknowledges my voice outside of academia to engage and introduce the reader to the essence of the chapter. The research concludes through re-uniting theory and practice and critically analysing the relationship. Thus the concluding chapter reflects on the form of action research developed in light of my initial normative aspirations set out in chapter three. The concluding chapter analyses the two pilot projects through reference to the analytical framework, and thus the thinking modes are qualified through reference to practice and the nature of EfS developed in the classroom discussed. The two pilot projects, despite a similar theoretical proposal, were greatly influenced by issues relating to pedagogy. The analysis of pedagogy thus constitutes themes arising from practice, contextualised with reference to current policy and critique as presented in chapter five. The concluding section offers suggestions for a third pilot project and broader recommendations for future research to facilitate EfS implementation.

Chapter Two

The Case for Change

‘During the first couple of weeks of my research I told a friend what I was planning to do. I explained that I felt daunted: the remit must be broad enough to elucidate the significance of the research remit but narrow enough not to constitute rambling. Ramblings are a serious risk given the fundamental questions the subject of education raises: what exactly are we educating for? and what sort of citizen do we want and can we have? My friend looked pensively for a while into his hot chocolate and told me that it was easy: ‘you’ll easily do this in a year...but you’re being a bit idealistic, Zoé, it’s very good that you have so much faith in people...but you’re naive, people aren’t perfect...look at history, what do all the philosophers say...You mustn’t be so naïve.’

2.1 Introduction

This chapter serves to elucidate my understanding of sustainable development, and as such questions how we fare as a society and provides insights into areas that must be addressed for EfS. A discussion about education without considering the nature of mankind and the society that is considered desirable would reflect a failure to appreciate the significance of education. Society is built upon an understanding of the nature of humanity. For a society to knowingly endanger its future raises fascinating questions about the story that people live by, our grand narrative. Whether or not mankind is considered inherently good has fundamental implications for the merits of ‘critical education’ and our approach to ‘development’.

The chapter draws on a wide range of thinkers and sources that have influenced my understanding of the case for change, and by corollary sustainable development. The research deliberately, and perhaps provocatively, attempts to steer a positive course for the future: one that inspires and engages young people to participate in thinking about, and action for, sustainability rather than succumb to the inertia and despair provoked by a negative view of the state of the world. Hence, there is an emphasis on literature that enables an optimistic outlook for a future whilst critically engaging with the realities of the challenges today. The extent to which the

chapter engages with thinkers endorsing my concerns over sustainable development is justified in the methodology chapter in which the importance of explicitly acknowledging subjectivities is discussed. The remit of this chapter reflects a commitment to provide a brief but holistic background to the understanding of sustainable development as endorsed in this research. There are numerous ways to convey one's understanding of sustainable development and the following sub-headings and concluding aspirations in section 2.5 were selected on the basis of academic and non-academic debates on the normative meaning of sustainable development, and an extensive review of the literature. The logic is detailed below.

The second section introduces the need for a paradigm shift, establishing the seriousness of the crisis and the need for action. Morin (1999) argues that for knowledge to be pertinent we must ask where we are and where we are going. The second section thus refers to our Earth identity and finite planet. The scientific problem is then recognised as a 'crisis of perception' in the following section. Section three calls for a reconsideration of the meaning of development and progress, and is presented as important grounding for the understanding of EfS developed throughout this research. Section four then introduces the approach to change endorsed for sustainable development. The concluding section makes explicit key aspirations for sustainable development, as endorsed in this research.

2.2 Our Earth identity

'if the Earth's 4.5 billion-year lifespan were compressed to 24 hours...dinosaurs wouldn't come on the scene until after 10pm, and...the time when most human civilizations emerged would occupy the last fifth of a second before mid-night.' (Henson, 2006, 194)

Consensus was reached in 1992 at the United Nations Conference on Environment and Development that as a species, we have caused considerable damage to our life support system and extreme measures are needed in response to the devastating effects, and future risks, humans pose to the functioning of ecosystems (UNESCO, 1992; Cardinale *et al*, 2012). An overwhelming scientific consensus unveils the extent that humanity risks obliterating the diversity and wonder of our finite planet (IPCC, 2012a). We are currently living beyond the Earth's carrying capacity and the Earth's resources are controlled by a small percentage of the world's 'privileged' (Postel, 1994; Rockstrom *et al*, 2009; WWF, 2012; IPCC, 2012b; UN, 2013). The case for change is

presented with the understanding that although the consequences of environmental destruction will not know borders, it is the people who have contributed and benefited the least from current development that will be the first to pay the price (Mendelssohn *et al*, 2006). As McDonough and Braughart (2002) stress, if the design of the current system were to be evaluated in terms of its appropriateness for a finite planet and potential to foster health and equality, the score would be low. McDonough and Braughart (2002) claim that an assignment to design the industrial revolution in retrospect would result in something like this:

'design a system that:

- 1. Puts millions of pounds of toxic waste material into the air, water and soil every year*
- 2. Produces some materials so dangerous they will require constant vigilance by future generations*
- 3. Results in gigantic amounts of waste*
- 4. Puts valuable materials in holes all over the planet, where they can never be retrieved*
- 5. Requires thousands of complex regulations - not to keep people and natural systems safe but to keep them from being poisoned too quickly*
- 6. Measures productivity by how few people are working*
- 7. Creates prosperity by digging up or cutting down natural resources and then burying or burning them*
- 8. Erodes the diversity of species and cultural practices'* (McDonough and Braughart, 2002,18)

Such an analysis stands in contrast to Diamandis' (2012) narration of the case for optimism and 'the tremendous progress we have made over the last century' in terms of numerous innovations and scientific advancements (see also Ridley, 2011). Diamandis' (2012) reference to progress includes the increasing average human lifespan; decreasing childhood mortality; the decreasing cost of food, electricity, transport, and communications; the potential of solar power; and a celebration of the exponential growth in technologies with potential to empower society to address the 'challenges of the planet'.

Faced with an impending disaster or great opportunity for change, the importance of connecting to a reality of environmental degradation and social injustice has sparked seminal writings calling for a more respectful and wiser approach to the

planet and fellow inhabitants (Carson, 1962; Fuller, 1969; Meadows *et al*, 1972; Schumacher, 1975; Lovelock, 1988). Contemporary thinkers have also emphasised the necessity to consider the case for change: sustainable development as an appreciation of the interdependence between the individual, national and global; and economic, social and environmental concerns (Blewitt, 2008; Dresner, 2008). As such sustainable development, as highlighted in the following section, calls into question our notion of development and unsuitability of GDP as a measure of progress. Indeed, the increase in GDP in Britain does not equate to an increase in life satisfaction and happiness (New Economics Foundation, 2011; Abdallah *et al*, 2012).

The fate of the infamous Easter Island society has been used as a metaphor for our own society (Diamond, 2006), emphasising our vulnerability and potential blindness and failure to act. The metaphor is critiqued elsewhere, for example, McAnany and Yoffee (2010) and Hunt and Lipo (2012). McAnany and Yoffee (2010) emphasise resilience rather than collapse in the face of societal crises. Hunt and Lipo (2012) call into question the islanders' relationship with their environment as described by Diamond (2006), arguing that they were good environmental stewards. However, Gladwell's (2005) praise for Diamond (2006) is particularly apposite in highlighting the relevance of this introduction as a call to recognise our Earth identity. As Gladwell (2005) warns, we can uphold worthy values as a society but 'still behave in ways that are biologically suicidal'. A powerful narrative, for some, is that humanity is in some way above and separate from nature and infallible. There is a body of research that focuses on our relationship with nature, damaging not only our life support system but impacting on our wellbeing (see Wilson, 1984; Maller and Townsend, 2006). Monbiot's (2008, 35) powerful account emphasises the need to re-connect with, rather than ignore, our Earth identity: 'when terrorists threaten us, it shows that we must count for something, that we are important enough to kill...there is no glory in the threat of climate change. The story it tells us is of yeast in a barrel, feeding and farting until it is poisoned by its own waste. It is too squalid an ending for our anthropocentric conceit to accept'. Such an analysis supports our potential blindness to act and is evidenced in the increasing risk of climate change, yet relatively little attention to environmental concerns during the 2015 general election; our unprecedented biodiversity loss; and stark inequalities amongst the human population (see Global Humanitarian Forum, 2009; Cardinale *et al*, 2012; Simms, 2015). Faced with a dominant culture destroying

our live support system and fuelled on aspirations of progress divorced from concepts of well-being, the crisis is, in essence, one of perception.

This short introduction presents a case for change by highlighting the importance of recognising our Earth identity and thus the understanding that we have one planet, with finite resources, to share with the growing human population and other species. Ultimately, the human mind and our story of progress will be the most important resource in this transformation. The next section commences consideration on the controversial meaning of development.

2.3 Stories of progress and development

The discourse of development, a controversial field, is fundamental to educational institutions: the notion of what constitutes progress articulates different epistemologies, ideologies and assumptions about knowledge and wisdom in a society. This section continues to engage the reader in the development of the normative understanding of sustainable development endorsed in this research, through acknowledging the controversy arising from the term and referencing authors who have debated the issue. Manzini (2007, 1) captures my concern of the mainstream notion of development referring to the proverb, 'If someone is hungry do not give them fish. Give them a fishing rod and teach them how to fish', before explaining that we ignore the proverb, and rather do the exact opposite. Manzini (2007) emphasises the extent to which we are living in a society that relegates responsibility; avoids effort, thought and knowledge related to our products and services; and damages informal economies of self-production.

The controversies over sustainable development frequently stem from the methods and meaning of development (Lele, 1991). The contemporary usage of development has been influenced, confused and limited by its intellectual history of various interpretations that tend to build on rather than replace each other (Power, 2003). Modernisation theory is premised on the belief that the lack of development in 'developing' countries is due to the persistence of traditional, particularistic and diffuse strategies requiring the emergence of 'the rational man' and dominance over nature (Rostrow, 1960; Rist, 1997). Central to modernisation theory is the belief that all societies are capable of developing according to a particular model; that linear economic growth will lead to social improvement; and the 'trickle-down effect' will in the long run benefit the poor and marginalised. Power (2003) provides an in-depth and

engaging overview of influential development theories and their consequences. Such attention to the diverse meanings of development emphasises the diverse political and economic mechanisms and spatial scales that provide different foci for pursuing sustainable development. Social and environmental movements have long proposed that modernisation did not constitute sustainable progress. *Silent Spring* (Carson, 1962), *The Limits to Growth* (Meadows *et al*, 1972) and *Small is Beautiful* (Schumacher, 1975) provide a coherent rationale to challenge a concept of development focused on economic gains rather than respect for the Earth's carrying capacity and concepts of wellbeing. Thus post-development emerged as a radical critique of development: not only its failure to deliver the promises of development but also 'because of its intentions, its world view and mind-set' (Pieterse, 2000, 175; see Ferguson, 1990; Escobar, 1995; Crewe and Harrison, 1998; Escobar, 2000). Development is conceived by the post-development school of thought as 'not just an instrument of economic control and management, but also as a discipline which marginalises peoples and cultures' (Power, 2003, 26). Post development theorists question long standing certainties over notions of 'progress' and 'development' (Rahnema and Bawtree, 1997). The truism that if the world were to 'develop' as Britain, three planets would be needed to support the human population (WWF, 2006) seriously challenges original modernisation and dependency theorists. Whereas past approaches to development had viewed people as objects, post development theorists considered people as agents, focusing attention on subjectivities and identities. The focus on identities and subjectivities resonates with the methodology underpinning this research, as discussed in chapter three.

The most common definition of sustainable development was first articulated in the Brundtland report *Our Common Future*: 'Sustainable development is development that meets the needs of present generations without compromising the needs of future generations' (WCED, 1987, 8). The need to respect the Earth's carrying capacity finds adherents across time and space (Callicott, 1982; TSuwan, 2008; Diamond, 2013). As acknowledged, the 1992 UN Conference on Environment and Development sought to place environmental and social concerns within international politics. Agenda 21 (UNESCO, 1992), endorsed at the conference, presents a global action plan for sustainable development based on an understanding that ecological, social and economic concerns are inseparable. As acknowledged in the previous section, there is now a wealth of literature conceptualising sustainable development and

sustainability (see Chambers, 2005; Blewitt, 2008; Dresner, 2008; Latouche, 2010). Clarity in terms of sustainable development as endorsed in this research is returned to under section 2.5, through reference to four key aspirations. Despite consensus at the aforementioned UN conference, governments have been criticised for failing to act (Dahl, 2014). The concept of sustainable development has also been criticised. The failure to dissociate ‘development’ from previous conceptions has enabled the word to be hijacked. Such fears find legitimation in the continuing use of ‘developed’ and ‘developing’ countries. A failure to distinguish between reformist and radical definitions or strong and weak definitions has led many to question its usefulness and contradictory nature (see Redclift, 1987; Becherman, 1994; Robinson, 2004). Other critiques of the Bruntland report’s definition consider the inherent anthropocentrism in the definition (see Robinson, 2004). Neumayer (2003) distinguishes between two divergent interpretations of sustainability that encapsulate different approaches to development:

‘WS [weak sustainability] can be interpreted as an extension to neoclassical welfare economics...natural capital is regarded as being essentially substitutable in the production of consumption goods and as a direct provider of utility...It is more difficult to define SS [strong sustainability] and pin down its implications. However, it is fair to say that the essence of SS is that natural capital is regarded as non-substitutable’ (Neumayer, 2003, 1).

Through reference to our Earth identity and critiques of development this research supports strong sustainability. An awareness of the controversial nature of, and the need for clarity in conceptualising, ‘development’ and by corollary sustainable development is considered important in evaluating the quality and meaning of EfS. Indeed the different approaches reflect a range of priorities: the value of economic performance; the value of critically challenging the *status quo*; and the value of scientific knowledge about our Earth’s carrying capacities. An awareness of such differences in responding to the case for change must be acknowledged in considering the theoretical underpinnings of EfS, as returned to in chapter four. The following sections expand on the understanding of sustainable development referred to in this research through considering behavioural change in the context of a dominant paradigm of unsustainable development, and then key aspirations characterising the concept of sustainable development endorsed in this research.

2.4 Behavioural change

In response to the previous sections, this section focuses on the challenge to move from unsustainable development towards a more sustainable society. The section commences with reference to political theory before drawing on research concerned with elucidating the barriers against, and opportunities to foster, sustainable development.

Political theorists have provided explanations of the barriers to societal change in a capitalist system (Marcuse, 1964; Gramsci, 1971). Indeed the creation of 'false needs', the driving force behind our economy, has created a society in which greed and dissatisfaction prevail (Porritt, 2005). Marcuse (1964) developed Marx's argument of objectification and alienation: that capitalism was destroying individual agency and fundamental aspects of humanity. Marcuse (1964, 11) warned: 'The people recognize themselves in their commodities; they find their soul in their automobile, hi-fi set, split-level home, kitchen equipment'. Similarly, Gramsci's development of the term 'hegemony' has been considered a useful conceptual tool to understand the structure of society (Mouffe, 1979), despite claims of a post-hegemonic society. Gramsci (1971) explains that the hegemonic system is maintained by the dominant class through social norms: that there is a superstructure in which the social institutions, dominant and founding ideas of society go unchallenged and the power of the individual and critical rationality are in decline. It is this 'historic bloc', this 'union of social forces' that must be addressed to progress. Indeed this has given rise to much debate about blame and responsibility of, for example, parents, media and the government. Marcuse (1964) and Gramsci's (1971) concerns are supported by many contemporary political scientists (see Klein, 2000; Kleine, 2005; Hill, 2011; Alexander *et al*, 2011). However, others argue for more faith in peoples' abilities to make rational decisions and preserve agency (see Legrain, 2003). Empowerment and participation are contested concepts (Barr, 1995). Indeed, a system in which identity derives from products and people believe they are free whilst 'subjected' is not conducive for critique and engagement with an alternative, more sustainable and health generating ambition for the future. The key question therefore is how do we escape from such hegemony and challenge our standard operating procedures? The merits of utopianism, as central to sustainable development and as a tool to encourage critique of the present society from 'another place', will be discussed in chapter four.

The following section addresses change through highlighting that knowledge alone is not sufficient; nor is our current reliance on issue specific tactics and individual change; and the importance of engaging with intrinsic values.

There is enormous variation amongst people's attitudes towards and engagement with sustainable development and the propensity to undertake voluntary measures founded on concern for the planet and other beings. A report (DEFRA, 2008) on behavioural change, based on a wide range of external research and advisory reports, sets out a framework for DEFRA's² work on pro-environmental behaviour and concludes:

'Common motivators for pro-environmentally friendly behaviour include: 'feel good factor'; social norm; individual benefits (e.g. health, financial outlay); ease; being part of something. Common barriers include: external constraints (infrastructure, cost, working patterns, demands on time); habit; scepticism; disempowerment. Lifestyle-fit and self-identity can be a potential motivator or barrier, depending on where people are starting from.' (DEFRA, 2008, 7)

Research on environmental behaviour highlights that knowledge of global issues increases peoples' propensity to change their behaviour guided by concerns related to sustainable development (Hogg and Shah, 2010). However, as Crompton (2010, 8) highlights 'there is mounting evidence that facts play only a partial role in shaping people's judgment. Emotion is often far more important'. Indeed, 'Presentation of facts can even prove to be counter-productive' (Crompton, 2010, 18). Numerous theoretical frameworks for behavioural change focused on the transition to more sustainable behaviour have been proposed (Kollmuss and Agyeman, 2002; Turaga *et al*, 2010). Lakoff (2009) discusses the way in which people ignore information that conflicts with their current identity, as does Kahan (2010) who refers to the process as 'protective cognition' influencing the perceived credibility of scientific data on environmental risks. Several studies emphasise the importance of addressing the risk of fatalism, as Lowe (2006, 4) explains the communication of environmental problems may be distancing the public 'who are made to feel that change is impossible'. Much research has highlighted the importance of attitudes towards the future and the extent despair and a sense of fatalism results in disengagement (Nagel, 2005; McKinley, 2008; Marshall,

² DEFRA (Department for Environment, Food and Rural Affairs) is the UK government department responsible for policy and regulations on environmental, food and rural issues.

2014). Indeed, the mechanisms employed by people to justify their knowledge-behaviour gap, highlighting the knowledge alone is insufficient, are widely documented, for example Stoll-Kleemann *et al* (2001) and Lorenzoni *et al* (2007). Stoll-Kleemann *et al* (2001) articulate four main interpretations that reinforce denial: the 'comfort' interpretation; the 'tragedy-of-the-commons' interpretation; the 'managerial-fix' interpretation; and the 'governance-distrust' interpretation. Lorenzoni *et al* (2007) give reasons for the availability of information not leading to engagement:

- *'Lack of knowledge about where to find information.'*
- *Lack of desire to seek information.*
- *Perceived information over-load.*
- *Confusion about conflicting information or partial evidence.*
- *Perceived lack of locally-relevant information, for example about impacts or solutions.*
- *Format of information is not accessible to non-experts.*
- *Source of information is not credible or trustworthy, particularly the mass media.*
- *Confusion about links between environmental issues and their respective solutions.*
- *Information conflicts with values or experience and is therefore ignored.'* (Lorenzoni *et al*, 2007, 451)

Underpinning the approach to behavioural change in this research is that our current reliance on issue specific tactics and individual change may actually discourage the change that is in proportion to meeting environmental and social challenges (Crompton, 2010). As Crompton and Thøgersen (2009) highlight, there is not the empirical evidence that simple and painless steps will facilitate change that is in proportion to such challenges. Indeed, a focus on simple and painless steps may actually discourage more demanding behaviour which involves critical thinking, as people seek consistency with their values and actions through less demanding but less effective behaviour (Crompton and Thøgersen, 2009; Cincera and Krajhanzi, 2013). Shove (2010) discusses the related focus on individual choice, which has political advantages. Shove (2010, 1274) critiques the dominant paradigm of ABC (Attitude, Behaviour, Choice) in contemporary environmental policy arguing that a focus on individual choice 'obscures the extent to which governments sustain unsustainable economic institutions and ways of life, and the extent to which they have

a hand in structuring options and possibilities'. Crompton and Thøgersen (2009) support Shove (2010) through articulating the reasons why an emphasis on simple and painless steps are attractive: in terms of deflecting pressure for government; an easy option for businesses to claim they are responsible; and relieving NGOs of the pressure to draw attention to the daunting scale and urgency of environmental problems. The engagement with simple and painless steps and a focus on individual behavioural change in conceptualising EfS is a key concern throughout this research.

Key to the approach to behavioural change in this research is an understanding of the need to engage with values: 'Values are beliefs about what is important in life and like other beliefs they are learnt' (Crompton, 2010, 35). Crompton (2010, 10) refers to intrinsic and extrinsic values acting in opposition: 'intrinsic values are associated with concern about bigger-than-self problems', examples of intrinsic values include 'the value placed on a sense of community, affiliation to friends and family, and self-development' whereas 'Extrinsic values, on the other hand, are values that are contingent upon the perceptions of others – they relate to envy of 'higher' social strata, admiration of material wealth, or power'. The reports in strategies for change presented by WWF (Crompton, 2008; Crompton and Thøgersen, 2009; Crompton and Kasser, 2009; Boyle *et al*, 2011; Chilton *et al*, 2012) examine empirical evidence and frameworks relating to the importance of values and self-identity in terms of how to move towards sustainable development. Intrinsic values are crucial in influencing our responses to 'bigger than self-problems' and to adopting behaviour in line with these concerns (Crompton, 2010; see also, Bardi and Schwartz, 2003; Roccas and Sagiv, 2010). Crompton (2010) highlights that activating particular values strengthens those values and can also impact on other related values or 'bleed over' (see Maio *et al*, 2009). Orr (2002, 32) argues that the need to change values may obscure that a sustainable world does not need to be 'remade but rather revealed', a point returned to in the following section with specific relevance to systems thinking. Indeed, as highlighted in considering the knowledge-behavioural gap, similarly values do not automatically translate into behavioural change but rather behaviour is influenced by trade-offs within an integrated system (Schwartz, 1996). Again, this emphasises the need to engage with the stories and understandings that constitute identity, key to critical education as proposed in chapter four.

This section stresses that factual knowledge is not sufficient but EfS requires a consideration of how to facilitate change on a scale that is proportional to current

environmental and social problems. Nor is a focus on environmentally friendly competencies in the form of simple yet painless steps. Engaging with the stories and understandings which people live by and their values; including individual and structural issues; and the conditions for hope, is considered fundamental to determining potential and change. Key aspirations informing the understanding of sustainable development underpinning this research are acknowledged below, building on the above sections.

2.5 Our most important resources: aspirations

As Schumacher (1975, 64) highlights ‘it is man not nature who provides the key resource’. This section expands on the meaning, and nature, of sustainable development through stipulating four key aspirations integral to the concept of sustainable development endorsed in this research. It is against the backdrop set out in section 2.2 that a paradigm shift toward survival is deemed essential, and that the concept of sustainable development must develop its meaning. Capra (1986, 11) usefully defines a paradigm as ‘[a] constellation of concepts, values and perceptions shared by a community, which forms a particular vision of reality that is the basis of the way the community organises itself’. It is important to emphasise that a paradigm shift ‘involve[s] all aspects of one’s being: intellect, imagination, sensibility and will’ (Findeli, 2001, 16), hence, the all-encompassing aspect and enormity of the challenge. Sustainable development as a different approach to life is extremely broad, for example, raising questions relating to who we are (see Chapman, 2004; Becker, 2010; Ferraro *et al*, 2011); appropriate forms of government and governance; and the legacy of past approaches to knowledge and notions of success. As Annan (2001) explained ‘Our biggest challenge in this new century is to take an idea that seems abstract – sustainable development – and turn it into a reality for all the world’s people’.

Several times during my research, I have become disenchanted and worried that perhaps I should be studying the influence of financial initiatives; tariffs for greenhouse gases; working towards stricter environmental legislation; or looking at the taxing system instead of the education system. However, there is much evidence supporting a more optimistic perspective of humanity, supported by research drawn upon in the previous section and importance of strengthening intrinsic values. Implementing laws and legally binding targets in conjunction with an approach that aims to foster a ‘thinking society’ conducive to conceiving a more sustainable future

are not considered mutually exclusive strategies. The aspirations, discussed below, justify the focus on people engaging in the meaning of sustainable development and the relevance this has for their own lives and communities as key to my understanding of sustainable development. A different framework for analysis, in terms of the four thinking modes, was developed for designing, delivering and evaluating EfS. The overlapping aspirations are important to acknowledge in order to clarify my understanding of sustainable development and, by corollary, an introduction into the nature of EfS endorsed. The thinking modes closely link to the aspirations, as demonstrated below, and are expanded on in chapter four, section 4.4.

First, sustainable development is considered as an aspiration to engage with the consequences of actions across time and space without losing faith in mankind. This research is based on the understanding that it is important for people to hope, and believe in, an improved society and that the tension between democracy and the urgency of the case for change can be addressed. The era easily gives rise to being cynical (Koch and Smith, 2006). The prominent climate scientist James Lovelock recently proclaimed that scientific knowledge indicates that 'It's just too late for it [stopping climate catastrophe]. Perhaps if we'd gone along the routes like that in 1967, it might have helped. But we don't have the time. All these standard green things, like sustainable development, I think these are just words that mean nothing' (quoted in Aitkenhead, 2008). Such a philosophy of resignation renders the worth of EfS highly dubious because EfS is based on an understanding that seeking to improve society is valuable. This research is based on a very different philosophy: that resignation is not an ethical option. Lovelock does capture the seriousness of the challenge ahead and a more thorough examination of the ethical issues involved in 'enlightening future generations' to this reality is insufficiently addressed in this research, despite being a concern that fuels this research (see Lowe, 2006; Lomberg, 2009). Indeed Porritt (2005, 320) argues that possibly 'the most important [defence against the sceptics of sustainable development] is a lack of fatalism about human nature'. As already acknowledged, this research deliberately seeks to engage with an optimistic approach to the way we reason and reinforce intrinsic values. The benefit of responding 'to the essence of consciousness' (Freire, 2000, 52) is a contentious and pivotal issue in the transition to a more sustainable paradigm (see Ehrlich and Ehrlich, 2013). A faith in mankind, or the way we reason, is inherent in critical pedagogy as addressed in chapter four. Against a backdrop of humanity's disregard for environmental limits and

capacity for evil, I seek to engage with a more optimistic view of humanity. As Crompton (2010, 37) highlights ‘even the gloomiest of assessments of human nature lead to the conclusion that we should be working to mitigate unhelpful aspects of our biology through cultural interventions’. Lakoff (2009, xvi) highlights ‘The discovery of mirror neurons shows that empathy is a fundamental human capacity that we are born with but which must be strengthened through a nurturant upbringing or it will decay’ (see also Tomasello, 2009). A concern over the tension between the need to ‘save the planet’; a concern that people do not act in ways that will support the move towards sustainable development; and an understanding that it is wrong to conceptualise EfS as a method to instruct people to act in pre-determined ways has informed my understanding of sustainable development and EfS (see Lassoë, 2007). Poeck and Vandenabeele’s (2012) discussion on how educational practices can deal with this tension has been influential to my understanding of sustainable development, addressed below. Sustainable development is thus considered as an aspiration not to lose faith, which underpins all four thinking modes. The call not to despair and retain hope raise questions over the extent that EfS is engaging in alternative and positive visions for the future rather than making the situation less bad, as returned to in chapter four and seven.

Second, sustainable development is considered as an aspiration to encourage increased participation, with a focus on both individual and structural change, critical thought, engagement with values, and reflection. Sustainable development is not an end point but a process of participating to create an alternative, fairer, happier, and health generating system aligning environmental and social concerns. An inclusive participatory society has been demonstrated to build social capital and increase wellbeing (Warburton, 1998; Kasser, 2002; Meier, 2013). Poeck and Vandenabeele (2012, 541) discuss a move away from individual competencies, dominant in the EfS discourse, to ‘a focus on the democratic nature of the spaces and practices in which citizenship can develop’ (see also Shove, 2010). Rather than considering sustainable development and democracy in tension, Poeck and Vadenabeele (2012) highlight the importance of participation, and EfS, in moving towards sustainable development. Thus EfS supports sustainable development through opening up issues for public involvement and ownership; the way in which practices of interaction provide space for divergent opinions, values and points of view; and ‘representing sustainability issues as a continuous quest rather than as indisputable targets that can be

anticipated, planned and regulated according to predetermined guidelines' (Poeck and Vadenabeele, 2012, 549). Sustainable development is considered a commitment to encourage increased participation through reinforcing intrinsic values; the focus on facilitating politically engaged citizens; and celebrating the opportunity in the crisis and not solely the impending disaster. Thus the aspiration to encourage increased participation overlaps with future thinking, values and priorities and action competency.

Third, sustainable development is considered as an aspiration to engage with our self-identity and celebrate existing values that support sustainable development, as called for in section 2.4. The emergence of the sustainable development discourse has been considered as creating space for re-considering our values, the design principles of our society; and barometers of success, including differentiating prosperity from economic growth (Jackson, 2009). Wood (2007, 1-2) argues that the use of legislative and fiscal policies to foster environmentally friendly behaviour is actually 'discouraging citizens from acting in a more responsible way' and reinforces power relations, and calls for efforts to 'improve the way we reason collectively' to be given more priority. As already acknowledged, many values currently held today are those needed for sustainable living, however connections are not perceived. For example, people generally want the best for their children, they are upset when there is suffering and injustice in the world; a sense of belonging and participating in a community is central to wellbeing; and sharing, volunteering and loving makes us feel good (see Wilkinson and Pickett, 2010; Oxfam, 2012; Dunlop and Swales, 2012). Considering the extent that people's backgrounds and worldviews influence their propensity to engage in appropriate behavioural change, commencing with and understanding initial worldviews is crucial, as highlighted in the above section. Sustainable development is endorsed in this research as an ambition to provide space for: questioning, proposing and justifying alternatives to fundamental aspects of our society. Engaging with identities and pre-existing values that support sustainable development overlaps with a focus on values and priorities and systems thinking.

Fourth, sustainable development is considered as an aspiration to value non-academic and academic knowledge. The importance of valuing different forms of knowledge and perspectives is widely recognized in calls for sustainable development, including local and practitioner knowledge to promote sustainable change (O'Brien *et al*, 2013). This is discussed elsewhere by Warburton (1998) who draws together

influential thinkers on community and the importance, and challenges, of community knowledge and participation for sustainable development. The previous section on behavioural change highlights that the ‘deficit model’ is not sufficient. Thus we need understanding of the ‘crisis’, which requires scientific knowledge, holistic thinking and debate over relevance to people’s lives. The aspiration to value non-academic and academic knowledge, as with the previous aspirations, overlaps with all thinking modes, but especially systems thinking and values and priorities. The aspiration to value non-academic and academic knowledge is discussed in chapter three. Chapter three engages with the normative understanding of action research as an appropriate and important methodology to support sustainable development.

2.6 Chapter summary

In order to embed the research in a holistic view of society the chapter briefly emphasises the need for, and the challenges of, sustainable development as essential to inform strategies for EfS. The aspirations qualifying the understanding of sustainable development endorsed in this research and are presented as a response to the previous brief overviews:

- on the need to re-engage with our Earth identity and understanding of the interdependence of the environmental, social, and economic spheres, and the individual, national and global;
- on the need for clarification over the meaning of development as endorsed in this research;
- on the need to appreciate that there is not a simple relation between knowledge, behavioural change and desired outcome but rather individual stories and contexts must be considered.

The aspirations in Box 2 (1) make explicit my understanding of the normative approach to sustainable development in the context of the need to re-connect with our Earth identity.

Box 2 (1): Key aspirations to conceptualise my understanding of sustainable development

1. An aspiration not to lose faith
2. An aspiration to encourage increased participation
3. An aspiration to engage with our self-identity and celebrate existing values that support sustainable development
4. An aspiration to value non-academic and academic knowledge

The case for change as presented calls into question the discrepancy between 'educated' and 'wise' and, by corollary, the legacy and philosophical underpinnings of our approach to knowledge and education. The following chapter introduces the approach to knowledge that permeates the research; and clarifies the research questions and aims fuelled by the understanding of sustainable development proposed in this chapter.

Chapter Three

The Epistemology and Methodology

“That’s valuable Zoé...but it’s not real research,” he announces whilst strolling along the pavement at three in the morning, the time to really speak one’s mind. My dear friend wasn’t a ‘social scientist’, whatever that means, and I knew that I’d have to sit down and justify why I was not heading for a FAIL.

3.1 Introduction

This chapter outlines the research aims, questions, and appropriate approach to investigate such questions. My research didn’t commence with a desire to do a PhD but with a desire to link theory and practice. I was inspired to pilot my understanding of EfS. I commenced my PhD with a commitment to what I considered ‘good’ research: I needed to be able to justify, not only to those working in academia, why it was of value; of value to society. What was less thought out was how this research project would meet the evaluation criteria for a PhD.

The shape of, and need for, this chapter was both influenced and reinforced by annual PhD Departmental reviews, two of which suggested that my methodology was not appropriate for PhD study. The review meetings raised serious concerns over whether or not the data collected would be ‘unanalysable’; whether or not the proposed research questions were answerable; and whether or not my research design was ‘just a project’. This process provoked thought on what constitutes appropriate questions and ‘analysable data’ for PhD study. Thankfully, what I considered ‘good research’ in this context overlaps with literature on action research. Indeed, the acceptability of action research within academia is controversial. Klocker (2012, 149) refers to ‘the prevailing despondent rhetoric’ about action research PhDs, and literature that positions action research and PhD research against each other: referencing Levin and Greenwood (2001), McCormack (2004), Moore (2004), and Moss (2009) for further discussion. Stringer (1996, 144; see also Greenwood, 2002) claims that action research ‘has yet to be accepted by many academic researchers as a legitimate form of enquiry’, and Brydon-Miller *et al* (2003) refer to concern over why action research has a hard time prospering. However, Winter *et al* (2000, 1) claim that action research

is increasingly adopted as a basis for PhD work. The lessons learnt relevant to this specific action research project are reflected on in the concluding chapter.

Important characteristics of my methodological approach, which may differ from traditional research, include the explicit commitment to change through reflection and action; the place of theory; the positionality of the researcher; and the blurring between results and methods. This chapter guides critical reflection on the normative nature of this research, returned to in chapter seven. The following section, section two, introduces the essence of action research, and comprises of sub sections that are considered important to increase the impact of, and to guide, the research. The style of the write up is then addressed in section three. The fourth section introduces the evolving research questions and reflects on the scoping stage, the time before I started the pilot projects, as influencing my research focus and approach. Section five introduces the methods for evaluation of the pilot projects. A more detailed documentation of the methods used during this research to investigate EfS is presented in chapter six, reflecting the overlapping of results and methods, and further discussed in chapter seven, 7.2c. This chapter sets out the normative understanding, theoretical sensitivity and ambition for the research rather than being primarily guided by a discussion on the appropriateness of different approaches and methods for the proposed research. The methods used are integral to the pilot projects and as such included in the documentation of practice in chapter six. The way in which the final project was influenced by the normative ambition set out in this chapter, including the validity criteria, is discussed in chapter seven. It is acknowledged that various methods could have been used in this research, and the methods and approaches used during the pilot projects were influenced by the fieldwork in terms of my, the teachers' and pupils' abilities and capacities.

Much literature on action research is judgemental and purist (Klocker, 2012), and thus rather worrying for a novice researcher. Chapter seven returns to the normative understanding of action research and contextualises practice with theory, and relevant literature, including challenges and opportunities resulting from the methodological approach.

3.2 The essence of action research

Kurt Lewin (1952, 169) is frequently regarded as popularising the term ‘action research’ and his understanding that ‘there is nothing so practical as a good theory’ has provided motivation for presenting this thesis. Other key thinkers in conceiving the research tradition include Reason and Rowan (1981) and Carr and Kemmis (1986). Dewey (1972) had a notable influence in the theoretical foundations of action research in education. The history of action research is discussed elsewhere, see Brydon-Miller *et al* (2003). Despite a growing appreciation, and articulation, of ‘action research’ there are significant variations of what constitutes ‘action research’ (Hollingsworth, 1997), and as such it is important to stipulate the influences on, and ambition for, action research as endorsed in this research.

The mind-set ‘to do something useful’, has been firmly established as a major driving force for this research in the previous chapter. The initial aims for the research were: to contribute to the evaluation of EfS in the Scottish secondary school curriculum; to develop a strategy for EfS which is practical, evaluated and, if deemed appropriate, provide resources for others to use; and to present insights about the worldviews of pupils and teachers on their engagement with EfS. Action research is orientated towards change through reflection and action (Selener and the Cornell Participatory Action Research Network, 1997). Gardner (2010) highlights that there is much educational research and resources that, despite intentions, are not in a form accessible for teachers to use and proposes that action research could improve the usability and value of such research.

McIntyre (1997) provides a useful understanding of the underlying tenets of action research: an emphasis on the lived experience of human beings; the subjectivity and activist stance of a researcher; and an emphasis on social change. Herr and Anderson (2005, 16) also identify dualisms characteristic of traditional academic research: the macro/ micro, theory and practice, subject and object and research and teaching, which are transcended in action research. Rather than being linear, action research is frequent characterised as cyclic: ‘with action and critical reflection taking place in turn. The reflection is used to review the previous action and plan the next one’ (Dick, 1997). Thus action research is not a neat, orderly activity that allows participants to proceed step by step to the end of the process. An increasing understanding of the field of action research defined as an ‘emergent, evolutionary

and educational process of engaging with the self, persons and communities' (Reason and Bradbury, 2001, 12) has been influential in clarifying an appropriate methodology.

Key to the tenets of 'action research' is a synergistic relationship between theory and practice to create social change. However, participatory, responsive and reflexive designs arguably pose serious problems to traditional academia and the extent that academia is open to such an approach is debatable, as acknowledged in the introduction to this chapter, and returned to in chapter seven. Robson (2002, 12), for example, argues: 'Advocating flexible designs as a serious possibility for enquiry in the real world is still likely to be viewed as a radical and risky departure in some disciplines'. For my research the requirements of the ethical committee, which had to approve the project, stipulated a clearly defined research design in advance which caused great concern to me. Flexible design is not a pre-structured procedure but adapts to the research findings and the ideas of co-researchers. Criticism of flexible designs include 'the absence of their 'standard' means of assuring reliability and validity, such as checking inter-observer agreement, the use of qualitative measurement, explicit controls for threats to validity, and direct replication' (Robson, 2002, 155). The need to re-consider evaluation criteria when working with thinking people, rather than objects of the natural world is addressed by Robson (2002), and returned to in section 3.2c. Robson (2002) advocates 'Critical realism' as a school of thought that appropriately bridges the divide of the 'objective and subjective' and provides a framework for researchers in justifying and understanding their research. Central to 'critical realism' is that: 'People, unlike the objects of the natural world, are conscious, purposive actors who have ideas about their world and attach meaning to what is going on around them. In particular, their behaviour depends crucially on these ideas and meanings.' (Robson, 2002, 24). The role of the researcher as influencing the validity of the research is returned to in the following section, including a need for the researcher to be explicit and reflective about power dynamics between researchers and 'subjects'.

The following overlapping features of action research, returned to under the proceeding sub headings, are considered important in increasing the impact of, and to guide, the research: the role of the researcher, the understanding of results and methods, validity criteria for action research in a post-graduate context, and the writing style.

3.2a The role of the researcher

A defining feature of action research is that ‘action research is inquiry that is done *by* or *with* insiders to an organization or community, but never *to* or *on* them’ (Herr and Anderson, 2005, 3) and the importance of explicitly addressing personal subjectivities. As Herr and Anderson (2005, 76) emphasis ‘an evolving methodology is a virtual given’ for action research. The re-evaluation of the role of the researcher and required skills raises important implications: a clash with academic culture and the ‘knowledgeable researcher’.

Heron (1981, 24), father of the co-operative inquiry method, writes of the importance of consulting on whether or not ‘his subjects’ constructs and intentions, or views of reality, concurs with the researchers conclusions. Heron (1981, 21-22) argues that a person may not necessarily be the ‘best authority on the validity of his own constructs and intentions. Hence the importance of co-operative enquiry...’. As Heron (1996, 11) highlights: ‘In meeting people, there is the possibility of reciprocal participative knowing, and unless this is truly mutual, we don’t properly know the other. The reality of the other is found in the fullness of our open relation (Buber, 1937), when we each engage in our mutual participation’. Research done *on*, rather than *with*, people thus sets the power balance towards the side of the knowledgeable ‘researcher’ which inevitably influences the validity of the research as people may not feel able, comfortable, or willing to participate and share their perspective. Understanding the constructs and the meanings of the ‘participants’ determines the validity of the research: both the reliability and use, returned to in section 7.2c.

In social research the motives of the researcher should be acknowledged to address subjectivities: ‘Traditionally what you bring to the research from your background and identity has been treated as a bias, something whose influence needs to be eliminated from the design, rather than a valuable component of it’ (Maxwell, 1996, 37). The validity of this research, expanded on in 3.2c, depends on the accurate portrayal of views: including reflecting on my own subjectivities, and developing skills to establish a relationship of trust and reciprocity. The researcher thus acquires a different identity in action research striving to become a reflective learner rather than a knowledgeable ‘academic’, in order to facilitate openness, engagement and empower others. The role of the researcher is returned to when considering the style of the write up, with reference to Czarniawska’s (1998) understanding of the

researcher as a sense maker connecting narratives with theories and facilitating dialogue, rather than a superior or objective account.

3.2b Results and methods

The blurring of results and methods has been discussed by many working on conceptualising the field of action research. Action research is cyclic and not linear, open to adaptation in light of reflections on action (Elliott, 1981; Kemmis and McTaggart, 1982; Schön, 1983). Therefore analysis during data collection constitutes a process of thinking about existing data and collecting new and often better quality data. The 'findings' are frequently considered as both results and prompts that inform and shape further methods and research.

3.2c Validity criteria for action research in a postgraduate context

This section expands on the above outline of the nature of action research through addressing the normative evaluation criteria for this research, as returned to in section 7.3c with reference to practice. As acknowledged in the concluding chapter, initial plans for evaluation were influenced by the practicalities of working in the messy and complex field of reality. Despite a recognition that the PhD must be appropriately framed and an argument proposed and developed, the PhD was not limited by the secure framing of an answerable question but rather a guiding question that would reflect the aims of the research as endorsed in the commitment to a flexible design. Indeed, the development of more questions and suggestions is celebrated in the final chapter.

Robson (2002) argues that systematic, sceptical and ethical research can emerge from a scientific attitude to social science, defining the conditions as follows:

1. *'Systematically means giving serious thought to what you are doing, and how and why you are doing it; in particular, being explicit about the nature of the observations that are made, the circumstances in which they are made and the role you take in making them'*
2. *'Sceptically means subjecting your ideas to possible disconfirmation, and also subjecting your observations and conclusions to scrutiny (by yourself initially, then by others)'*

3. *'Ethically means that you follow a code of conduct for the research which ensures that the interests and concerns of those taking part in, or possibly affected by, the research are safeguarded'* (Robson, 2002, 15)

The importance of ethical research, as presented by Robson (2002) is considered fundamental to the legitimacy of action research. As returned to in chapter seven, ethical considerations influenced plans for both the final evaluation and the write up emerging from a commitment to work with others, respect their time and professional integrity. Ethnography approaches resonate with this research journey, in valuing the personal experience of the researcher not only acting as an observer but participating in the process to gain the relevant understanding of the meanings, challenges and working environment of the research field. Richardson (2000) discusses five criteria for the evaluation of ethnographer research that were key to the original aspirations for the research:

1. *Substantive Contribution: 'Does the piece contribute to our understanding of social-life?'*
2. *Aesthetic Merit: 'Does this piece succeed aesthetically?'*
3. *Reflexivity: 'How did the author come to write this text...Is there adequate self-awareness and self-exposure for the reader to make judgments about the point of view?'*
4. *Impact: 'Does this affect me? Emotionally? Intellectually? Does it move me?'*
5. *Expresses a Reality: 'Does it seem 'true'—a credible account of a cultural, social, individual, or communal sense of the 'real'?'* (Richardson, 2000, 254)

The above aspirations are returned to in light of practice in chapter seven. Maxwell (1992) provides a useful framework to consider what he regards as salient threats to the validity of qualitative research. The three following 'kinds of understanding' of qualitative research are addressed as description, interpretation and theory. The main threat to description is incompleteness or inaccuracy of the data. The main threat to interpretation is the tendency to impose a theory of what is happening which hampers appreciating what is emerging from the research. The main threat to theory is a failure to consider alternative explanations. Lincoln and Guba (1985) also discuss threats to validity relevant to 'flexible designs' under the following headings: reactivity; respondent biases (the 'good bunny' syndrome); and researcher biases. Reflexivity

and being explicit about underlying drivers and the research process, including the write up, are fundamentally important for overcoming the above threats to valid research, as returned to in the following section.

The use of triangulation is frequently proposed to enhance the rigour and depth of research (Howe, 1988; Greene, 2007,). Denzin (1978) articulated four types of triangulation: data, the use of different sources for research; investigator, the input of different researchers or evaluators; theory, the use of different perspectives to interpret the data; and methodological, the use of different methods to research a specific area. It is important to acknowledge that the use of mixed methods, often associated with a 'pragmatic tendency' (Robson, 2002), has attracted critique and raised concerns (Guba, 1987; Sale *et al*, 2002). For example, see Bloor (1997) and Bryman (2004) for discussions on logical and practical challenges. Mason (2006) warns that, despite benefits, mixed methods research risks being disjointed and unfocused. However, Robson (2002, 162) argues that a key principle in the incompatibilist argument is that research methods should be determined by abstract paradigms rather than 'a more complex two-way relationship between research methods and paradigms, where paradigms are evaluated in terms of how well they square with the demands of research practice.' Rather than a weakness, the potential for contradictory findings emerging from triangulation to deepen understanding has been advocated (Greene, 2007, see also the discussion by Moffat *et al*, 2006 on dealing with apparent discrepancies arising from triangulation). The relevance, feasibility, form of and insights from, triangulation in this research are documented and discussed in chapters six and seven retrospectively.

3.3 Style

The presentation of the research has been influenced by critiques of academic style and the importance of considering the write up as integral to the research (Lotz-Sisitka and Burt, 2002). This section acknowledges thinkers who influenced, and justify, the approach to the write up.

Marcuse and Neumann (in Kellner, 1998, 95) stress the importance of personal analogies and a holistic approach which writing in a novel style potentially can 'bring to life': 'social change cannot be interpreted within a particular social science, but must be understood within the social and natural totality of human life'. A critique of Morin's writings by Montuori (2004) reflects a similar concern:

'[Morin] provides us with an example of 'embodied' inquiry and personal reflection...most social scientists are unable to give voice to the whole of their life and experience...to understand him or herself, to be able to explore his or her personal involvement in the research, to document that process and reflect on it, to explore the extent to which the subjective and objective co-create each other' (Montuori, 2004, 353)

The move away from the impersonal stance goes beyond the style. The importance of communication and facilitating dialogue is highlighted by Czarniawska (1998) who refers to the role of a researcher as a sense maker connecting narratives with theories and facilitating dialogue through presenting an alternative account of the field, rather than an objective or superior account. Stapleton and Taylor (2004, 2) highlight that 'Shifting from one writing style to another is not necessarily a simple matter of translation, in the way that naïve students of language believe that all one needs to learn a foreign language is a comprehensive dictionary of vocabulary'. Their discussion over an appropriate structure for a thesis includes a call to move away from 'the third person, past tense, value neutral, passive voice once advocated by Francis Bacon' (Stapleton and Taylor, 2004, 2), and highlights that the writing style fundamentally shapes the process of enquiry, including the 'subjectivity of the researcher as learner' (Stapleton and Taylor, 2004, 1). This research incorporates the calls to engage in alternative research writing styles, for example, as advocated in the editorial for *The Geographical Journal's* (Dodds, 2010) call for submissions with 'an enthusiasm to develop an accessible and engaging style of writing that will maximise readership. A willingness to take scholarly risks...'. As Stapleton and Taylor (2004) emphasise, 'Accompanying standards of legitimacy (or validity) include the evidence of the emergence of the research design, the shifting nature of the methodology, continuous reviewing of literature to establish significant emergent issues and the progressive subjectivity of the researcher (4)' and that in 'succumbing to the structural template of positivism...researchers are in danger of creating distorted portrayals of their inquiries as timeless, lacking in contingency and without an emergent nature (1)'. Stapleton and Taylor (2004, 9) endorse the writing of a thesis in which 'One can encounter the researcher's experiential and situated knowing in action, free from the disruptive (and distorting) effect of the formal academic voice of the theorist and methodologist'. The thesis is therefore not written in the third person, or past tense and emphasises the values and reflections influencing the direction of the research.

Stirling (2003), renowned for his work on systems thinking, emphasised in his thesis the importance of writing and reading holistically, and thus to some extent reading his thesis differently. In working towards a systematic view Bateson (2000, xiv) describes ‘analysis is only a fraction of the task, for analysis has always been a means of control’ and the need for ‘moments of imaginative recognition’. Particularly relevant to my presentation of chapter six, Stirling (2003, 70) acknowledges that ‘Some of the content of this [his] Thesis does not yield itself to simple critical analysis; rather it requires the reader to engage in making connections, and to think integratively, to come with an appreciative mind first and critical mind second, and aware of his or her own participation with the Thesis in part and as a whole’. Stirling (2003) refers to the balance of academic rigour and a participative imagination. This is relevant to my thesis, in that throughout the writing process I am striving to balance academic rigour with the aspiration to share with the reader the experience of practice. Although chapter seven focuses on uniting theory and practice there are sections in which simple critical analysis is not appropriate but rather a re-engagement with practice is considered appropriate in order to discuss practice and theory. Stirling’s (2003) thesis was influential in re-affirming my confidence that in striving to embed practice in academic thought I should not feel uncomfortable valuing and presenting practical knowledge before my critical analysis.

3.4 The evolving research questions

There have been various calls for social ‘science’ researchers to provide a ‘natural history of the inquiry’ (Erickson, 1986, 152) and a ‘muddy boots and grubby hands’ (Punch, 1986) account of the research experience: ‘More deeply than in a sheer ‘methods’ account, we should see how key concepts emerged over time; which variables appeared and disappeared; which codes led into important insights’ (Punch, 2009, 338; see also Miles and Huberman, 1994). This is addressed in chapter six, *Preparation, Piloting and Evaluation*. However, this chapter commences such an engagement through discussing the articulation of the research questions, key stages, and influential experiences in the research journey.

The initial questions for the research were: is sustainable development presented as an opportunity to create something better in the secondary school curriculum?; where are the opportunities to challenge the *status quo* and each other’s visions of an ideal future/ utopia?; and where are the opportunities in schools to

engage in social action and designing a better future? The initial questions and aims remained a source of inspiration for the knowledge generation throughout the research, reminding me of the personal reasons for commitment to the action research project. They acted as a springboard, in that I initially understood my main focus would be to pilot a project with the theoretical underpinnings for 'strong sustainability' and then evaluate the current curriculum in respect to such questions, with teachers and pupils.

An overview of the influences on, and direction of changes, through the research is presented in Figure 3 (1). Throughout the research the questions were reframed to encompass a comprehensive and practical research remit, as introduced in Table 3 (1). Research questions evolved and were re-framed as an appreciation of the field, including the 'input' of co-researchers, influenced the formation of the questions. This is expanded on in chapter six through the documentation and initial reflections on practice, and in the analysis of practice and theory in chapter seven.

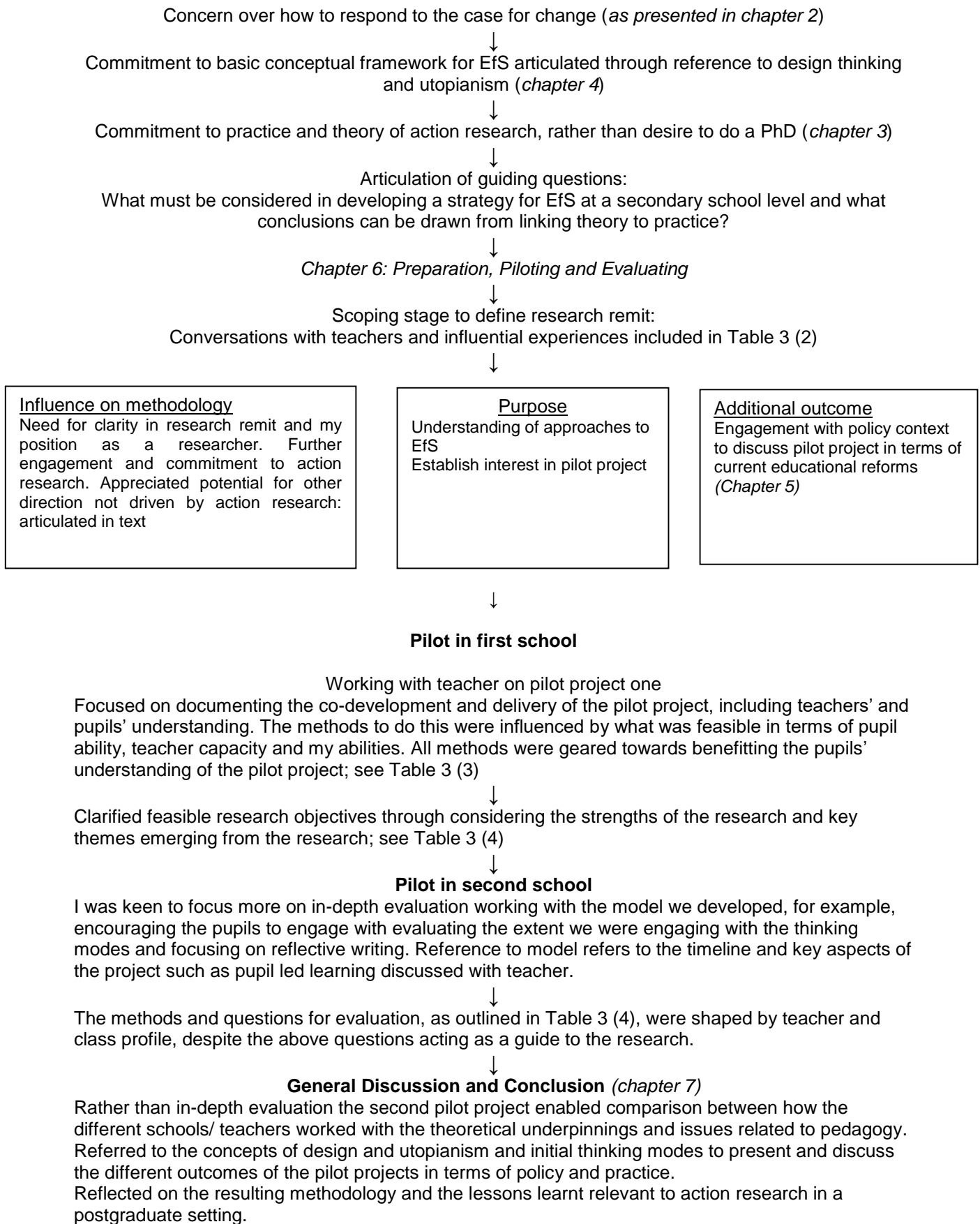


Figure 3 (1): Influences on, and direction of changes, through the research process

Table 3 (1): The evolving research questions as a response to practice

Questions pre pilot project one	Reflections in light of practice	Reframed questions for pilot project two
1) How does this conceptual framework (see course descriptor presented in section 4.7) currently fit into the curriculum?	<i>The research was primarily driven by a desire to create an inspiring model. This question was first proposed with the expectation of more systematic discussion. Although this question remained influential the focus was too broad. The teacher, having piloted the project and discussed EfS with me, was able to reflect on how other initiatives compared with the pilot project. The pupils were asked if and how the pilot project differed to what was being delivered in school. However the depth of discussion was limited by other priorities in delivering the pilot project.</i>	1) What are the resulting insights and recommendations for the school curriculum emerging from this research in terms of: a) The status of EfS in the curriculum (including a focus on pupil engagement, pupil led learning, and pupil reflection) b) Teacher engagement c) Support for resources
2) Could this pilot project deliver the intended aims and objectives?	<i>As a question to frame the research this question was better posed as how do we evaluate a strategy for EfS? The aims and objectives as outlined in the course descriptor were not systematically and explicitly discussed. In place of these, themes emerging from the pilot projects were discussed on the back of discussions with pupils and an eagerness to frame the evaluation in a language informed by the experience of the classroom.</i>	2) What are the resulting insights and recommendations for the school curriculum emerging from this research in terms of the evaluation strategy i.e.how do we evaluate EfS?
3) In what way would pupils and teachers develop this pilot project/ aspects of the education or wider system to deliver the desired aims and objectives?	<i>This question remained key but was re-framed to emphasis the characteristics of the pilot project and research. The main focus was on the pilot project rather than the wider system due to time constraints. The commentary on the wider education system was enhanced through comparing the different approaches in the two schools and identifying themes that influenced the development and delivery of the pilot projects.</i>	3) What form does this pilot project take (including a timeline, understanding of pilot project from different perspectives, resources used for the pilot and plans that did not happen)?

Table 3 (1): Continued

Questions pre pilot project one	Reflections in light of practice	Reframed questions for pilot project two
4) How might we conceptualise/ theorise 'design thinking' as fundamental to education in the 21st century?	<i>As I didn't discuss design thinking with the teacher in any depth but developed an interest in how the project related to initial aspirations driven by my understanding of action research, I decided a change in emphasis was appropriate. I was not naturally inclined to discuss design thinking when in the classroom, influenced in part by time and the desire to prioritise other aspects that would aid in the delivery and understanding of the project.</i>	4) What are the lessons learnt relevant to AR in an educational (secondary school) context?

The following reflects on the scoping stage as influencing my research focus and approach, in keeping with the approach to the write up, or style, considered appropriate to present this thesis.

The first year constituted a time in which I grappled with the research remit, referred to in retrospect as 'the scoping stage'. It is easy in academia, as I experienced in my first year, to become sheltered in an 'ivory tower'. Thus, I would like to acknowledge the opportunities and contacts that were influential during the scoping stage in the articulation of research questions, remit and methodology. The contacts, as detailed in Table 3 (2), increased my understanding of the curriculum and current EfS initiatives; increased my confidence to work with teachers and a wide range of pupils; and improved my ability to form 'realistic expectations' when writing a proposal to link theory and practice. Through discussing EfS with those involved with practice very different attitudes and understanding of policy and EfS were highlighted, as presented in 6.1.3.

Table 3 (2): Influential experiences during the scoping stage

Contact	Experience
Scottish Outdoor Education Centre	Volunteered at an Outdoor Centre for a summer: Co-ran outdoor and activity sessions with a range of pupils.
Eco-Schools training	Completed the eco-school assessment training qualification and attended a school assessment.
Visits to secondary schools	Visited several open days at secondary schools showing examples of Education for Sustainability.
Conversations with teachers	Spoke to secondary school teachers from different subjects on how they see their subject contributing to EfS; their views on the 'strength model approach to EfS' and their feedback on my proposed conceptual framework.
Work with prominent NGO	Worked with a prominent NGO. My role involved working closely with secondary schools and delivering sessions for pupils relevant to the concept of EfS endorsed in this research.
My brother at secondary school	Held conversations with my brother at secondary school and his friends on school, EfS, and my proposed conceptual framework.

During the scoping stage, finding a school became my central concern and challenge. An initial letter was sent to schools in Glasgow, Edinburgh, Dundee and Dumfries and Galloway establishing interest in participating in my research, including a request to hold semi structured interviews with teachers based around the following themes: the teachers' worldview; the recent curriculum reform, Curriculum for Excellence; the UN Decade for Education for Sustainability; professional identity; and the proposed pilot project, see overview of initial course descriptor as a template for the conversation in section 6.1.2. The themes reflected a desire to understand the meaning and status of EfS in the Scottish secondary school curriculum, including teachers' attitudes and understanding of EfS and what was currently being delivered related to EfS; and to have an opportunity to discuss my understanding of the theoretical underpinnings of EfS as addressed in the following chapter. The basis for selecting the geographical regions was on the grounds of accessibility as I relied on public transport. During the scoping year, several conversations with teachers were held and three conversations recorded. Additional conversations were not recorded as informality supported the role of the conversations with teachers as an important scoping exercise to better understand the field, including improving my ability to communicate with those involved in the secondary school curriculum. The recorded conversations are returned to in chapter six, *Preparation, Piloting and Evaluating*. Reference to the conversations

in this chapter highlights their influence on the methodology: resulting in a commitment to 'action research' and as such influencing my research questions.

These conversations provoked thought about the need for clarity in my research remit and my position as a researcher. In order to pilot the conceptual framework it was necessary to work in partnership with the teacher, i.e. to be open and honest with each other, impossible to do without stipulating your own worldview. However, in order to discuss teachers' views on EfS I was keen to appear non-judgemental. In one interview I realised that the teacher did not share my concerns, or rather her view of 'sustainable development' was very different to my own. An answer that EfS was adequate would therefore not mean much without a discussion over the role and understanding of education and EfS. During another 'interview' I was caught between bolstering my credibility by explaining what I was doing and encouraging the teacher to speak her mind. Narrowing down the questions whilst ensuring that the discussion was as holistic as necessary was required. However, I was not able to discuss convincingly the conceptual framework without having piloted it. I needed to have self-confidence that I understood my proposed strategy and it was worthy of PhD research, being very aware of the threat of 'unbecoming' a researcher (Archer, 2008).

During the scoping stage I contacted prominent non-governmental organisations (NGOs) committed to EfS to discuss the concept of EfS they sought to facilitate in the school curriculum; and to ask whether or not they knew of contacts within the secondary school sector they felt would be interested in discussing EfS and my conceptual framework, potentially for a pilot project. A couple of prominent NGOs in the field of EfS suggested that what I was proposing 'already exists', but were not able to supply evidence. A prominent spokesperson in the area of EfS working for a large NGO conceptualised the 'main issues', in email correspondence, as the practicalities of 'running these courses. For example where does it fit in the timetable? Which subject teacher takes responsibility for this? [and] which areas of the curriculum/national priorities does it address?'. I was advised to 'examine several existing courses of this nature, investigate how the schools have dealt with these practical issues, explore what motivated them to take this approach, what benefits they feel this approach delivers and explore the reasons that these approaches are not more widely adopted by other schools'. The scoping research demonstrated that whilst diverse work in developing EfS in the classroom has been undertaken, such initiatives

frequently did not result in academic or non-academic publications and the experiences are thus not easily accessible to others.

During the scoping stage there were research opportunities to examine teachers' approaches to EfS through focusing on a discussion about the conceptual framework. Based on the conceptual framework I could have focused on, for example, the challenges and opportunities of implementation; or their expectations of pupils' engagement and what sort of future would be predicted; or the way in which it differed from EfS initiatives currently running at school. As detailed at the start of this chapter, I was committed to the ethos of action research and immersing myself in both theory and practice through the pilot projects rather than conducting an investigation by, for example, working with multiple schools, imposing a model on existing curriculum, or project development without a pilot project. Other themes that were raised during the scoping conversations are returned to in section 6.1.3 including: outside organisations involved with EfS and teacher collaboration; the value of eco-schools; divergent views about the CfE; the eco-literacy of teachers; the lack of resources for EfS appropriate for secondary school teachers; HMle reporting; the role of teachers and values; hope versus despair in delivering EfS; and the Island project. Although any of these themes may have been appropriate for PhD study, and may have constituted a more clearly defined and 'comfortable' research line of inquiry, the utility was not satisfactory. I was determined my PhD/knowledge production would be more than just critique and explanation.

3.5 Methods for evaluation of pilot projects

As detailed below various methods were planned to work towards data triangulation, influenced by the guidance as acknowledged below. The different methods included feedback forms, reflective journals, participant observation, informal discussions, and peer discussions with recording devices. Striving to include critical friends (Costa and Kallick, 1993) to discuss assumptions informing the research contributes to theory triangulation, as presented in section 7.3. Using methods with different epistemological backgrounds to enhance rigour and depth has attracted critique, as recognised in section 3.2c. Robson's (2002) reference to the 'pragmatic tendency' frequently associated with mixed methods appropriately characterises the proposed methods. Table 3 (3) and Table 3 (4) present an overview of the evaluation for pilot project one and two respectively. The methods used were developed during the pilot project,

resulting from reflection over the best methods to facilitate pupil feedback and understanding considering class abilities and time constraints. As evident in chapter six, and returned to in chapter seven, the contradictory findings emerging from the different methods and perspectives, especially during the second pilot project, enables reflection on the more complex reality of the pilot project and thus led to deeper understanding. My commitment to facilitate the presentation of all perspectives underpinned the evaluation, as highlighted in section 3.2c and returned to in section 7.3c. Throughout the evaluation I was aware that interviews and questionnaires are notorious for their discrepancies (Robson, 2002, see Auge and Auge, 1999; Bendall, 2006), thus reinforcing the case for triangulation of data methods and participant observation.

Table 3 (3): Overview of evaluation for pilot project one (Auchencairn Academy)

Length: 9 weeks. (4 hrs per week). Number of pupils: 30. Class: S4 (around age 15)

Perspective	Data	Section Detail
Mine	Pilot project overview	<p>Initial meeting with teacher (6.2.1)</p> <p>Preparation of resources (6.2.2) <i>Names of pupils; Supporting packs; Moving beyond academia; Reflective workbooks; Preparation of facilitators</i></p> <p>An overview of the pilot project (6.2.3) <i>The launch in St Andrews; Presentations, MSP's visit; Recaps; The community event</i></p>
Teachers	Teachers' feedback on various themes related to the pilot project and EfS at Auchencairn Academy	<p>Teacher's profile and perspective (6.2.4) <i>General feedback on success; Enthusiasm; Understanding of teacher requirements and class profile; The importance of pupil ownership; Approach to class and class profile; School working environment; Evaluation; EfS at Auchencairn Academy</i></p>
Pupils	Visual presentation of pilot project by pupils	Visual presentation of pilot project (6.2.5a)
	Overview of pupils' attitudes to sustainable development	Overview of pupils' attitudes to sustainable development and pilot project (6.2.5b)
	Feedback relating to themes emerging during a period of evaluation with pupils after completing pilot project	<p>Period of evaluation (6.2.5c) <i>Interest, support, and challenges; Returning to the theoretical underpinnings; The project outside the class; The MSP's visit; Additional skills; Originality, Favourite aspect and ideas for improvement</i></p>
	Pupils' essays on pilot project and topics discussed during class	Essays: emotional and descriptive (6.2.5d)

Method	Analysis	Significance
The documentation derives from my perspective in order to introduce an overview of the form of the pilot project	The overview is considered useful in sharing with the reader the form of the pilot project that emerged in the classroom based on the initial theoretical underpinnings	Presents starting ambition for, and nature of, the pilot project
A semi-structured interview with teacher after the completion of the pilot project	Deductive analysis: the guiding themes for the semi-structured interview were informed by the frequent discussions (approx each session terminated in a discussion) that I had with the teacher throughout the course of the pilot project. The interview was structured to capture salient themes that had emerged in discussions	Presents teacher's perspective on pilot project as integral to the pilot project and research
Extract of posters advertising the community event	Comment on pupils' presentation of pilot project	Presents pupils' understanding of pilot project
Feedback forms comprising of likert scale ranking and open ended questions	Answers were collated and presented in text box and the significance discussed in the text	Presents pupils' propensity to engage with EfS
Pupils interviewed each other and basic feedback forms were given to generate discussion	Inductive analysis: the interviews were transcribed and themes emerged.	Presents pupils' perspectives on the pilot project, and attempt at evaluating EfS
This was an assignment as part of the pupils' Higher English course, not necessarily linked to the pilot project, to write about an emotional experience and write a discursive essay	Quotes are used in the text to illustrate evidence of pupils' engagement and value 'pupil voice'	Presents evidence of pupils engagement with the pilot project

Table 3 (3): Continued

Perspective	Data	Section Detail
Critical 'friends'	Facilitators' feedback on pupils' response to pilot project	Critical 'friends' (6.2.6) The facilitators' feedback
	Outsiders' perspectives and understanding of pilot project and the issues involved	Critical 'friends' (6.2.6) <i>Friends feedback</i>
	Outsiders' perspectives and understanding of pilot project and the issues involved	Critical 'friends' (6.2.6) <i>Times Educational Supplement report</i>
Mine	My initial reflections on completing Auchencairn pilot project	My reflections for second pilot project (6.2.7)

Method	Analysis	Significance
Feedback forms comprising of open ended questions	Answers were collated and the significance of questions discussed in text in terms of class profile and suggestions for a repeat	The facilitators acted as 'critical friends' supporting my portrayal of the class and teacher profile
Discussion with friends on conceptual strategy and attendance at the community event	Transcribed recordings and through inductive analysis identified themes	Theoretical triangulation
Reporter visited school and spoke to teachers and pupils to inform his report on the pilot project	Comment on the significance of the reporters' articulation of the pilot project	Theoretical triangulation
My reflection with the aim of developing 'theoretical sensitivity' by referring to the starting ambition for the pilot project	My reflections contribute to the analysis in chapter seven in which the theoretical framework, practice and relevant literature are discussed	Presents my approach and understanding of the pilot project and acknowledges my personal involvement as a researcher

Table 3 (4): Overview of evaluation for pilot project two (Torr High)

Length: academic year (1 or 2 hrs per week) . Number of pupils: 43. Class: S5 and S6 (around age 16/17)

Perspective	Data	Section Detail
Mine	Pilot project overview of initial preparation and structure of pilot project	Initial preparation with teacher (6.3.1) Introduction to the implementation of Torr pilot project (6.3.2) <i>The teaching staff; Class background; Key worksheets</i>
Teachers (supplemented by my reflections)	Teachers' perspective and understanding of the pilot project as it developed in the classroom: .	Teacher's perspective: the opportunities and challenges (6.3.3) <i>Understanding of pilot project; Originality; The approach and challenges related to pedagogy; CfE; Idea of a teacher pack; logistics; Class attitudes: ambition and engagement with issues; Class abilities: team work, understanding and initiative; Evaluation</i>
Pupils	Overview of pupils' attitudes to sustainable development and pilot project	Overview of pupils' attitudes to sustainable development and pilot project (6.3.4a)
	Overview of group progress, drawing on pupils'; teachers' and my reflections	Reflections on group progress (6.3.4b) <i>Group one: Energy; Group two: Entertainment; Group three: Food; Group four: Health; Group five: Justice</i>
	Pupil feedback on understanding and support for pilot project	The feedback forms (6.3.4c) <i>Mid-term feedback; Final feedback</i>
	Overview of informal discussions held with pupils	Informal discussions with pupils (6.3.4d)
Mine	My initial reflections on completing Torr pilot project	My reflections after Torr pilot project (6.3.5)

Method	Analysis	Significance
The documentation derives from my perspective in order to introduce an overview of the form of the pilot project	The themes were considered useful in sharing with the reader the form of the pilot project that emerged in the classroom	Presents starting ambition for, and introduces, the pilot project
Throughout the project I held recorded discussions with the teacher on the project. The themes are supplemented with my understanding and notes from my reflective diary	Transcribed interviews and coded under the themes that I considered important to portray the teacher's approach to the project	Presents teacher's perspective on project as integral to the project and research
Feedback forms comprising of Likert scale ranking and open ended questions	Answers were collated and the significance discussed in text	Presents' pupils propensity to engage with EfS
Pupils' reflective essays; My informal conversations with groups and participant observation, focused on interest, support and understanding and the 'output' of each group; My reflective diary, which was completed after each session	Four main questions emerged after reading the essays and the essays were subsequently coded in reference to the questions. These four themes informed my reflection	“”
Feedback forms comprising of Likert scale ranking, multiple choice questions and open ended questions	Answers were collated and discussed in text	“”
Spoke to individuals and groups on their understanding and progress and made notes in my reflective diary	“”	“”
Reflection with the aim of developing 'theoretical sensitivity' by referring to the starting ambition for the pilot project	“”	Presents my understanding and approach to the pilot project and acknowledges my personal involvement as a researcher

During the write up I considered that it is important to draw on pupils' comments. Equally importantly, I considered it my responsibility to provide context when I had doubts about the level of reflection in pupils' comments and the extent to which evidence supported such comments. Thus, in order to respect pupils' voices I acknowledge the context through drawing on mine, the teachers' and the pupils' feedback and perspectives. Feedback forms were used with pupils to engage them with the aims of the pilot project and elicit quick feedback on the project. The feedback forms consisted of a range of questions, including multiple choice, open ended and Likert scale ranking. De Vaus' (2001) advice on question wording was considered useful in avoiding problems associated with leadings questions. The justification for open-ended questions provided by Robson (2002), resonates with the use of open-ended questions in the context of this research. The open-ended questions were considered essential to respect the methodological approach encouraging and respecting pupil voice, through facilitating an ability to: go into more depth or clarify misunderstandings; deepen understanding of the pupil's knowledge; encourage co-operation; result in a truer assessment of what the pupil believes; and the potential for unexpected answers that may challenge understandings (Robson, 2002). Feedback forms, during the first pilot project, were also influenced by participatory rural appraisal techniques (Chambers, 1997) that avoid writing where possible and rely on oral and visual communication to quickly obtain, and encourage reflection on, the majority view. The Likert scale ranking and multiple choice questions was considered appropriate as I predicted pupils would enjoy completing the scale and participating without requiring written, time consuming feedback. The Likert scale was useful in assessing the degree of agreement and thus general class attitudes, which could be discussed. In retrospect, a semantic differential format may have reduced the tendency to agree with statements (Friborg *et al*, 2005). The plan to convert the Likert scale responses into pie charts to discuss with the class was not completed due to time and logistical problems, as discussed in chapter six.

As emphasised in section 4.2, reflection is key to critical education. The reflective journals were considered an important method to evaluate the pilot project. The reasons behind the reflective journals are articulated by Moon (2006) and resonate with my own experience of journal writing as a form of self-empowerment. Indeed, there is a range of understandings of reflective practice, including conceptual, pedagogical and ethical concerns addressed by Finlay (2008). Pupils were initially

asked to complete reflective journals to record their experience, ensure understanding and serve as a basis for reflection and communication. As detailed in chapter six, due to time constraints the reflective journals were not completed. However, reflective essays were written by pupils at the end of the pilot project. The pupils were encouraged to interview each other at the end of the first pilot project, as detailed in chapter six, to encourage pupils to reflect, discuss and define the pilot project together. In terms of enhancing the reliability of research, Shaw *et al* (2011, 5) proposes that involving children and young people 'may put their peers at ease more readily than adult researchers'. The suggestion for peer interviews was considered as part of formative evaluation and the pupils' responses considered in light of the teachers and my own observations.

My informal discussions with pupils and teachers and participant observation were considered important methods to understand the pilot project. In the spirit of action research I always sought to work with, rather than on people, and thus immersed myself in the pilot projects. I was keen to be present during the classes, both to establish a supporting role in the delivery and document what happened in the period, including any significant issues that would aid in future discussion over the key characteristics of the pilot projects. Indeed, the rationale for participant observation resonates with Mason's (1996) discussion on participant observation in terms of my inability to perceive an alternative approach to collecting data considering my personal reasons for undertaking the PhD study. I completed my reflective diary regularly, commenting on what was done and the discussions I had with individual pupils on how their group was progressing. I sought to minimise distortions and biases as identified by Robson (2002) such as the tendency towards selective attention, encoding and memory. Thus in writing my reflective journal I sought to follow Lofland *et al*'s (2006) guidelines including a concrete description; detailed comments, including named comments; forgotten material; an initial analysis of the situation; and my subjective reactions. As is returned to in the concluding chapter, my immersion in the classroom was essential to present my understanding of classroom delivery, grounded in experience, specifically in relation to the second pilot project. The way in which immersion in practice aided contextualisation and my ability to acknowledge subjectivities in the write up is returned to in chapter seven, section 7.3c. My immersion in practice enabled me to focus on the context of barriers and opportunities to contextualise pupil feedback, such as, for example, pupils' claims to have improved

team work which clashes with my own and the teacher's acknowledgment of pupils progressing with their initial plans and the extent to which they were working in a team.

A semi-structured interview provided an appropriate method to facilitate an understanding of the teachers' perspective. The semi structured interview was used in order to maximise the time and ensure the themes that were raised in informal conversations were captured but also to encourage the teacher to raise additional reflections relevant to our discussion (Wragg, 1980). Debriefing conversations with both teachers were held after most sessions, helping understanding and interpretation of practice. The debriefing sessions also were useful in safe guarding against researcher bias and serving as a therapeutic function (Robson, 2002). As acknowledged in the introduction to this chapter, action research bridges the divide between the academic and personal quest aimed towards contributing to improving a situation; and frequently requires a substantial emotional and time investment. Thus the opportunity to generate enthusiasm, inspiration and support during the debriefing sessions was important both for my ability to continue with the research; and to honour the commitment to work with, rather than on, the teachers. In both pilot projects the debriefing sessions contributed to safeguarding against researcher bias, as illustrated in the following examples. In the first pilot project, Maria helped me re-evaluate my initial interpretation of practice. I initially understood that the pupils were not emotionally engaged when presenting to their class and Maria explained the extent that such a task was challenging for them and their desire to be "cool". Similarly, the discussions with Simon sensitised me to being conscious of my initial high aspirations for the pilot project. In the second pilot project Simon commented on the support demonstrated by the pupils at a time in which, through comparison with the high achieving and academically engaged English class, in pilot project one, I was blinded by my frustration with the lack of structure.

As detailed in chapter six, methods were proposed by the teachers and myself during the pilot projects as a response to the potential of the classwork but due to the challenges of delivery not implemented. These methods are important to acknowledge in chapter six as an important part of documenting the pilot projects. The reasons they were not used give an insight into challenges related to EfS delivery. Indeed, without acknowledging ideas that were not acted upon, the write up would not convey the extent to which the teachers and class abilities limited the aspirations to facilitate pupil feedback.

3.6 Chapter summary

The chapter introduces important characteristics of action research as an appropriate methodology for investigating EfS in terms of the commitment to work with people in linking theory to practice and producing a research outcome useful for teachers and pupils. The methodology is a key consideration for investigating and advancing EfS in the secondary school curriculum and as such developing a strategy for EfS. The importance of evidence based research, teachers' and pupils' voices, and examples of EfS implementation and evaluation is addressed in chapter five.

As highlighted, action research challenges assumptions of research in terms of the blurring of researcher and subject; results and methods and the necessity of an 'evolving methodology', rather than a fixed research design, as the research develops in the 'real world' with the input of co-researchers. The importance of acknowledging subjectivities and becoming a reflective practitioner is key to the validity criteria of this research and also influences the style of the write up, celebrating the personal research journey. The chapter presents an overview of evaluation for the pilot projects including the form of the data, analysis and significance. A commitment to a mixed method approach is clarified, including an acknowledgement of criticism, and considered important in outlining validity criteria for action research in a postgraduate context. The mixed method approach was influenced by the pupils', teachers' and my own abilities, as is documented in chapter six. The chapter engages with the approach to validity criteria and academic rigour for action research that was particularly influential in terms of the ambition for this research and is returned to in section 7.3c. The chapter, through referring to the evolving questions, introduces the construction of the thesis that guides the following chapters.

Thus the chapter sets out the goals for the PhD conceived of as an intended action research PhD and an example to reflect on the challenges and opportunities resulting from this methodological approach. Having outlined the aspirations for the methodology informing this research certain aspects of the research, as discussed in chapter seven, would appear anti-thetical to the methodology proposed. The experience of engaging with action research in an academic institution and discussions held with others in the department resonate with Herr and Anderson's (2005, xvii) understanding that my methodological approach 'raises [unique dilemmas] around validity, positionality, write-ups, ethics and the defence of the dissertation' and Klocker's (2012, 155) experience that 'there are still some human geographers whose

definitions of legitimate academic writing remain limited to disembodied ‘high theory’. The chapter is presented with an understanding that the theory of action research is relatively uncontroversial but the experiences of academics engaged in action research highlight challenges in a post graduate context. A continuation of the methodological discussion is returned to in chapter seven, in which I refer to academics engaged in action research who have acknowledged challenges that resonated with my experience in a postgraduate context. Alluding to the controversy in this chapter helps convey my desire to be clear about the normative understanding, theoretical sensitivity, and ambition for this research and to signpost a continuation of the methodological discussion. This structure reflects more authentically the research process, although not linear. I became committed to action research, after the fieldwork reflected on the challenges I experienced, and embedded them in academia during the writing process.

This chapter is ultimately concerned with knowledge: issues of valuable knowledge; the emphasis on learning from experience, personal and subjective knowledge; and relevant knowledge. There are therefore overlaps with the following chapter on *Knowledge and Education* introducing the concept of EfS endorsed in this research, in terms of knowledge that is co-generated and local, non- fragmented, inspiring, reflective and ultimately useful for ‘sustainable development’.

Chapter Four

Knowledge and Education

I knew the minute she replied she regretted it. I asked a visiting lecturer why, especially when her initial research grant addressed formal education, did she 'move away' from schools. The reply: "I'm interested in serious change."

4.1 Introduction

In order to discuss and develop a strategy for EfS, the role and understandings of EfS must be discussed and defined. This chapter addresses the question, posed as a sub-question in the Introduction: what is the role of education and understanding of EfS endorsed in this thesis? The meaning of EfS is developed throughout this thesis, but the initial theoretical underpinnings are clarified in this chapter. The meaning of knowledge referred to in the research is not only a series of facts but also interpretations of learning and experience, hence the understanding that people's knowledge is influenced strongly by values and attitudes. The following chapter on policy highlights the need to engage with the philosophy of education, including the knowledges appropriate for the 21st century. Such an understanding of knowledge as situated and influenced by attitudes, values and narratives, rather than a series of uncontroversial facts, is widely supported by thinkers drawn upon in the methodology section, post-structuralists, post development theorists, and feminist writers (see also Denzin and Lincoln, 1994; Escobar, 1998; Kollmuss and Agyeman, 2002; Leiserowitz, 2006; Hulme, 2009). This chapter presents educational institutions as central to the direction of society and thus continues to develop/construct the meaning of EfS referred to in this research. The chapter commences with a philosophical introduction to education through addressing its role in section two; then questions the 'knowledges' that are appropriate in the 21st century in section three, including four key thinking modes comprising EfS as endorsed in this research; and outlines key discussions that EfS has provoked in academia in section four. The chapter then pays homage to two fundamental concepts in section five: design and utopianism that build the conceptual framework for the pilot project. Design is conceived as a potentially promising discipline to 'teach' thinking and utopianism, or ideal futures, as a catalyst to engage pupils in the design process. The sub sections propose and conceptualise design and utopianism as potentially useful, original and fundamental concepts for the

theoretical and practical advancement of EfS, and as such for the four thinking modes outlined.

The focus of EfS endorsed in this research is limited to classroom-based education and therefore does not include outdoor education, as it is outwith the research remit. The importance of outdoor education and engaging with nature, as a fundamental component of EfS, is discussed elsewhere (see Beames *et al*, 2012).

4.2 The role of education

The environmental 'crisis' can also be viewed as a 'crisis of perception', as discussed in chapter two, and as such a 'crisis of education'. The following questioning of the role of school education is not to deny the importance of education as a basic human right but to emphasise the need to re-evaluate the meaning of educated and decouple perceptions of information and wisdom (Schaeffer, 2012).

I am mindful that Illich's insight into University reform, stressing that educational reform cannot be separated from the wider system, applies to all levels of education: 'any attempt to reform...without attending to the system of which it is an integral part is like trying to do urban renewal in New York City from the 12th Story up' (Illich, 1971, 38). Schools, however, are the main institution endowed with the task of the education of children. Robinson (2006) has drawn parallels between the mining of resources and the mining of our minds. We must be careful with humanity's mind and imagination: 'the worst dangers and the greatest hopes are borne by the same function: the human mind itself. And this is why a reform of thought has become a vital necessity' (Morin, 1999, 38). Thus, calls for a more philosophical approach to education in response to the case for change abound. Knowledge is power and as Shaull, writing in the preface to Freire (2000, 13) claims, 'there is no such thing as a neutral education'. Similarly Clark (1989, 234) emphasises that education is political, either preparing the young for the *status quo* or preparing the young to challenge and conceive a different society, emphasising the need for explicitly questioning the role, and nature, of EfS.

Orr (2004, 5) maintains that the beneficial aspect of education has long been taken for granted, precluding debate about the underlying philosophy of education and the questioning of what society we wish to develop: that within government, 'education is not widely regarded as a problem'. Similarly both Jickling and Wals (2012) highlight the importance of reflecting on the meaning and purpose of education in their discussion over the conceptual merit of EfS. Sterling (2001, 14-15) argues that there

is great need for a different pedagogy considering our educational system currently rewards conformity and a very limited understanding of achievement; reproduces norms; and thus serves the consumerist machine. The challenges of education expand beyond school into the realm of governance. Understanding that the educational system reflects and reinforces social norms has led some to believe that government will never support a system that openly encourages criticism. Indeed, the success of EfS cannot be separated from the government's wider commitment to sustainable development and whether or not rhetoric is translated into action: an extremely controversial area. Chapman (1999, 1) considers EfS as 'a radical activity which governments will almost certainly attempt to neutralize and control [and thus,] attempting to reconcile market-driven government policy with environmental education goals is likely to be a waste of effort.' The extent to which policy and practice supports such an account is returned to in the concluding chapter.

Orr (2004, 30) explains that the great emphasis on 'smartness' and 'highly specialized, narrowly focused intellect' is tailored for the current economic system. The extent to which such a focus is dominant in the current policy context is considered in chapter five. Indeed, the power of education to benefit society, for example in terms of increased opportunities related to gender equality and technological and scientific innovations that will support sustainable development, should be celebrated (Hamal, 2010; Cremin and Nakabugo, 2012). However, it is frequently 'the most educated' nations which have the largest ecological footprint (McKeown, 2002) which indicates a discrepancy between being educated and wise, considering the case for change as outlined in chapter two. The principle role of education as the transmission of culture from one generation to the next therefore must be re-considered for the transition from unsustainable to sustainable development.

The role of schools in society is far from clear-cut. Sterling (2001) has distinguished four different purposes of schools that highlight the importance of explicitly articulating the normative role of schools endorsed in this research:

1. *'To replicate society, and culture and to promote citizenship - the socialization function'*
2. *'To train people for employment - the vocational function'*
3. *'To develop the individual to his/her potential - the liberal function'*
4. *'To encourage change towards a fairer society and better world - the transformative function'* (Sterling, 2001, 25)

Sterling (2001, 25) considers that 'any educational system tends to be multi-functional' but that the vocational function is the prominent role and the transformative role 'exists in rhetoric' (28). These different roles of the school will be returned to in the concluding chapter. As referred to above, Sterling (2001) presents a pragmatic and holistic approach to understanding EfS. Orr's (2004) main focus is on the liberal and transformative function, resonating with the reasons for undertaking this research including the case for change as presented in chapter two. Sterling (2001) also highlights the importance of considering the vocational and socialisation function that, as returned to in chapter seven, is essential to address in developing practical strategies for EfS.

The centrality of education for a paradigm shift towards a culture of sustainability has been widely acknowledged, with a focus on education as self-fulfilment and the transformative power of education. The designation of the UN Decade for Education for Sustainable Development (2005-2014), returned to in the following chapter, highlights an appreciation that education is key to development, to: 'help people to develop the attitudes, skills and knowledge to make informed decisions for the benefit of themselves and others, now and in the future, and to act upon these decisions' (UNESCO, 2012, 1).

Morin (1999, 47) argues that the task of any education is to achieve lucidity, although he acknowledges that awareness in itself will not suffice in this paradigm shift: 'transformation is not only innovation and creation but it is also destruction'. A recognition that our current crisis is 'fuelled partly by the human legacy of last century's educational practices' (Sterling, 2001, 22) requires examining the foundations of our educational system. This requires addressing the (arguably) founding myths of our modern educational system identified by Orr (2004, see also Bowers, 1991): that ignorance is a solvable problem; that with enough knowledge and technology we can manage planet Earth; that knowledge and by implication human goodness is increasing; that we can adequately restore what we have dismantled; the purpose of education is to give students the means for upward mobility and success; and that our culture represents the pinnacle of human achievement. Undoubtedly, it is paramount to evaluate education against the standards of decency and human survival, as C.S Lewis (1959) warned: 'education without values, as useful as it is, seems rather to make man a more clever devil'. The perpetrators of Auschwitz, Dachau, and Buchenwald were educated, however, such education was not about widening circles

of compassion (Orr, 2004). Students were not facilitated to critique the *status quo*, and empowered to articulate, research, justify or share their ideals for a better society but rather such education was focused on ideological indoctrination and efficiency. Indeed, despite impressive technological advances in the 'western world', our failure for strategic action and an educated compassionate response to the suffering of others is evidenced in our current inability to acknowledge and address the current refugee crisis (Symonds, 2015).

In addition to the above environmental thinkers who have addressed the link between education and sustainable development, educational philosophers who have engaged, or are commonly associated, with constructivism have been influential in my understanding of the role of education, teaching and learning (Dewey, 1956; Kincheloe, 1991; Windschitl, 1999; Windschitl, 2002; Gordon, 2009). Fox (2001) identifies key characteristics of constructivist views of learning in an informed critique, including an understanding that learning is an active process; that knowledge is personal and socially constructed; learning is sense making; and effective learning deals with challenging, meaningful and open-ended questions. Whilst aware of criticisms outlining major limitations of constructivist theories (see Fox, 2001; Bowers, 2005; Kirschner *et al*, 2006), the focus of this research resonates with Gordon's (2009) ambition 'to develop [or rather contribute to] a pragmatic constructivist discourse based on their [Dewey and Freire] theories' rather than to refer to constructivist learning theory to frame the approach to education endorsed in this research. The theoretical sensitivity developed through reading critiques of constructivism will be returned to in chapter seven, the concluding chapter. Freire (2000) is a key influential thinker to my understanding of education as a tool to overcome oppression, through critical thought and heightened consciousness, and as such unsustainable development. Freire's (2000) distinction over education either reinforcing or challenging the *status quo* inspired my eagerness to address, and challenge, the socialisation and vocational function in the classroom.

The banking approach as articulated by Freire (2000), dominant in previous educational systems and preoccupied with the transmission of culture, regards students as passive recipients: knowledge is not problem-posing and critically considered, but it is about adapting to fit the world. Reality is considered 'as if it were motionless, static, compartmentalized and predictable or an alien topic' (Freire, 2000, 163). A critical perspective on the other hand encourages students to 'engage in an

ideological critique of values and beliefs that shape and constrain their lives' (Lee and Williams, 2001, 227). The focus on reflection, challenging and questioning society, rather than reproduction, is key to critical education. Critical curriculum theorising emphasises environmental education as 'a political activity concerned with ideological critique; that is recognising ideology in its various consciousness, oppression and hegemony' (Lee and Williams, 2001, 222). As such, social empowerment and action are regarded as fundamental curriculum concerns, teachers are perceived as 'collaborative enquirers', and students as 'active generators of new, dialectical, working knowledge' (Lee and Williams, 2001, 222). The extent that such an approach would question democracy and our current social economic system, thereby indicating an authentic commitment to sustainable development including the aspirations outlined in Box 2 (1), reflects the significance of creating space for critical education.

This section has emphasised the importance of engaging philosophically with the role of education in the development of a strategy for EfS. Through questioning the role of school education, and drawing on influential thinkers to my understanding of EfS, this section highlights the significance of EfS and the need to consider the way in which education supports unsustainable development. This section has acknowledged that the challenges of EfS go beyond the school walls into the realm of the job market and governance and thus the significance of a commitment to EfS to catalyse wider change (see Poeck and Vandenabeele, 2012). Recognising that schools must abandon the perceived aforementioned founding myths of education and respond to the case for change as expressed in chapter two, raises questions over appropriate knowledge for the 21st century.

4.3 Appropriate knowledge for the 21st century

This section questions the knowledges that are appropriate for the 21st century, thus expanding on EfS endorsed in this research to be expanded on in the following sections and chapters. In chapter two, the meaning of sustainable development as endorsed in this research was proposed: it was argued that with the backdrop of an environmental and social crisis, a culture of respect and empathy, both for environmental limits and other beings, was required: a 'thinking society'. The importance of striking a balance between concern and hopelessness, engaging with worldviews in order to facilitate change and creating opportunities to participate in sustainable development was emphasised. In the introduction to this chapter an

understanding of knowledge as not only a series of facts but the interpretation of learning and experience was qualified. This chapter has commenced with discussing the role of the school and meaning of education, which raises fundamental (epistemological and ontological) questions over what knowledge is valued. This section references influential thinkers on appropriate knowledge for the 21st century, including a return to the four thinking modes as introduced in chapter two. The thinking modes are expanded upon in section 4.5 with reference to the concepts of design and utopianism as an appropriate philosophical and practical response for EfS, and in chapter seven with reference to practice.

The emergence of EfS, as addressed in the following chapter, is an acknowledgement of humanity's detrimental impact on the Earth and the necessity, and urgency, for society's participation in the move towards a 'sustainable paradigm'. However, specifically what entails in re-orientating our educational system 'continues to be a forum for pedagogical and ideological debate' (Nagel, 2004, 118). There is a wealth of competency lists characterising the nature of EfS (see Wiek *et al* (2011) for a comprehensive overview). The different interpretations of EfS obviously are intimately connected to the level of education and socio-economic background, traditions, national identity, and by corollary issues of participation and governance. However, despite being a contested concept, several core components can be identified. The following key words frequently used in definitions of EfS were identified in the United Nations Decade of Education for Sustainable Development (UNDESD hereafter) Regional Synthesis Reports (in Wals, 2009):

'Creation of awareness, local and global vision, responsibility (learn to be responsible), learning to change, participation, lifelong learning, critical thinking, systemic approach and understanding complexity, decision-making, interdisciplinarity, problem-solving, satisfying the needs of the present without compromising future generations' (Wals, 2009, 27)

In Scotland's first action plan for the UNDESD, expanded on in section 5.2, six principles informed the definition of EfS, or as articulated by Education Scotland 'sustainable development education'. The principles are as follows:

- ***'Interdependence*** - *appreciating the interconnectedness of people and nature at a local and global level*
- ***Diversity***- *valuing the importance of natural and cultural diversity to our lives, economy and wellbeing*

- **Carrying capacity-** *acknowledging that the world's resources are finite and the consequences of unmanaged and unsustainable growth are increased poverty and hardship, and the degradation of the environment, to the disadvantage of us all*
- **Rights and responsibilities-** *understanding the importance of universal rights and recognising that our actions may have implications for current and future generations*
- **Equity and justice-** *being aware of the underlying causes of injustice and recognising that for any development to be sustainable it must benefit people in an equitable way*
- **Uncertainty and precaution-** *understanding that our actions may have unforeseen consequences and encouraging a cautious approach to the welfare of our planet'* (Education Scotland, no datea)

The importance of 'types of learning' for EfS are enshrined in the following 'five pillars of ESD': 'learning to know; learning to be; learning to live together; learning to do; learning to transform oneself and society' (UNESCO, 2011, 1). Various academics have discussed the 'knowledges' relevant to EfS. Morin (1999), for example, discusses 'knowledges' for the 21st century under the following headings: detecting error and illusions; principles of pertinent knowledge; teaching the human condition; Earth identity; confronting uncertainties; understanding each other and ethics for the human genre. Davis' (1998) definition of EfS captures the transformative and aspirational quality of EfS endorsed in this research:

'It is about values, attitudes, ethics and actions. It is not a subject or 'add-on' [sic]. Nor is it an option. It is a way of thinking and a way of practice. It is a positive contribution to counteract the 'doom and gloom' and helplessness that many feel about the enormity of environmental and social problems. It is certainly more than recycling, composting and keeping earthworms.' (Davis, 1998, 146)

For the purpose of this research, four key thinking modes emerged as a framework to examine EfS and guide engagement in practice. EfS is expanded upon and developed throughout the research, in which the influences on my definition, the key criteria and the approach to practice are clearly acknowledged. This section presents my framework to guide engagement, and examine, EfS in practice. The importance of the thinking modes, outlined in Table 4 (1), have been introduced in chapter two, as key

to the understanding of sustainable development. The thinking modes were informed by the critical analysis of a case for change and research on behavioural change as summarised at the end of chapter two; literature on competencies for EfS, discussed below; and academic and non academic³ conversations related to the concepts of wise and educated.

Table 4 (1): Thinking modes constituting aspirations for EfS as endorsed in this research

Thinking mode	Classroom aspirations
System thinking	A focus on thinking about the consequences of our actions; the interdependence between the social, environmental and economic spheres; the individual, local and global levels; and the relationship between 'good news' and 'bad news' as defined by the pupil.
Future thinking	A focus on thinking about our collective future and what a 'wiser' future would look like instead of just making the situation less bad.
An emphasis on values and priorities	A focus on discussion and consideration of the values that guide our behaviour and which values should be reinforced for the development of a 'wiser' society as defined by the pupil.
Action competency	A focus on engagement and empowerment to participate in the development of a 'wiser' society as defined by the pupil.

The thinking modes expanded upon below are considered with reference to constructivist learning theory (see Dewey, 1972), in which working with the pupils' worldviews and experience informs the learning and teaching. As such, this necessitates attention to the power dynamics of the teacher and pupils and an awareness that frequently 'constructivist teaching is much more complex and unpredictable than traditional teacher-directed instruction' (Gordon, 2009, 43).

Many thinkers have addressed the thinking modes as appropriate knowledge for the 21st century, briefly acknowledged below for further reading on the theoretical discussion. In the context of this thesis the thinking modes are articulated in a manner to discuss in the classroom. Poeck and Vandenabeele's (2012) discussion on 'learning from sustainable development' was particularly influential in my understanding of EfS. Poeck and Vandenabeele (2012, 541) discuss a move away from individual competencies, dominant in the EfS discourse, to 'a focus on the democratic nature of the spaces and practices in which citizenship can develop'. Thus as addressed in section 2.5 under the understanding of sustainable development as an aspiration to increase participation, EfS engages with sustainable development through opening up issues for public involvement and ownership; the way in which practices of interaction provide space for divergent opinions, values and points of view; and representing

³ Reference to academic refers to conversations at the University with an emphasis on theory

sustainability issues as a 'continuous quest rather than as indisputable targets that can be anticipated, planned and regulated according to predetermined guidelines' (Poeck and Vandenabeele, 2012, 549).

In terms of systems thinking, Morin (1999: 13) maintains that 'the universal problem for every citizen of the new millennium is how to get access to information about the world, and how to acquire skills to articulate and organize that information. How to perceive and conceive the Context, the Global (the whole/parts relation), the multidimensional, the Complex.' Linear instrumental thought has failed to elucidate the consequences of our actions and specialisation has lost the holistic perspective that is needed when dealing with complex systems. Sterling (2003) provides an in-depth account and discussion of the nature of whole systems thinking and the implications for our educational paradigm, referencing diverse and influential thinkers that engage with systems thinking and sustainable development (see Bateson, 1972; Bawden, 1991; Bohm, 1992; Capra, 1996; Capra, 2003). The ambition to facilitate systems thinking directly relates to the question over how to integrate EfS in the curriculum, returned to in the following section.

As Bertstecher (cited in Hutchinson, 1996, 36) stresses: 'the future is to be created, and before being created it must be conceived, it must be invented and finally willed'. This research commenced with a concern that the emphasis on preparing students to be equipped for the future attracts more prevalence than encouraging students to construct an optimistic vision of the future, or consider what future is desirable. The research is based on the understanding that the normative function of education is intrinsically hopeful and future orientated (Halpin, 2003; Dator, 2002; Hicks, 2002). Orr (2004, 129) shares such a belief maintaining that 'education has lacked the courage to ask itself what kind of world its graduates will inherit and what kind of world they are prepared to build'. The extent to which current reform challenges such an understanding is addressed in chapter five and returned to in the concluding chapter. The ambition to engage with future thinking is focused on thinking about our collective future rather than making the situation less bad. This resonates with the concern identified in the following section over the importance of a realistic engagement with current trends whilst still retaining hope.

The ambition to engage with values and priorities is a defining feature of sustainable development as 'the appeal for a new ethic and vision' (Mebratu, 1998, 520). EfS raises concerns over how to engage with values and priorities and the risk

of indoctrination as addressed in the following section. The working definition or aspiration of the thinking mode endorsed in this research, through reference to an emphasis on values and priorities, includes facilitating an awareness of the values and priorities that guide our behaviour and appropriate values for sustainable development as defined by the pupil. As referred to in chapter two, reinforcing intrinsic values is key to the approach to behavioural change informing the understanding of sustainable development underpinning this research. A barrier to sustainable development is the difficulty of seeing our position in the world as we are bombarded with information, everyday pressures and choices leaving no time to examine the organising ideas which shape our lives, including our expectations and aspirations and aligning our values with our behaviours (Wahl, 2006). The importance of such an awareness through research and justification and debate, holding the potential to detect 'false rationality' and our 'standard operating procedures, is key to critical education as emphasised in the previous section (see Morin, 1999). The way in which pupils, teachers, and policy engages with values and priorities is a key theme throughout this research, in terms of normative and current aspirations and the resulting insights into the status of EfS in the curriculum.

In the understanding of EfS influencing ambitions for practice, action competency is considered as the extent to which the pupils consider that they have engaged, and are predisposed to do so, in the development of a wiser society as defined by the pupil. The broad understanding of action competency, referred to in this research, ranges from developing generic skills to engaging with the outside community in a way that reflects the pupils' understanding of sustainable development. The importance of inspiration and ownership of ideas is key to the understanding of action competency referred to in this thesis. The concern expressed by Ofster (cited in Watson, 2001, 256) that 'too often for many pupils the location of information remains an end in itself, and they present the information unprocessed' calls for education to bridge the gap between theory and practice: between school and the 'real world'. Perceiving knowledge as an end in itself has important consequences for EfS. Learning without practice can foster learned helplessness and fails to transmit that with knowledge comes responsibility to act (Cross, 1998; Summers *et al*, 2003). Additionally, Orr (2004, 13) maintains 'we cannot say that we know something until we understand the effects of this knowledge on real people and their communities', emphasising the need to be involved in practice. The approach to action competency

is shaped by Poeck and Vandenabeele's (2012, 545) presentation of 'citizenship-as-practice' requiring 'experimental engagement' in which 'new ways of doing and being come into existence' rather than focus on preparation for citizenship in the future.

The above section has expanded upon the four thinking modes key to the understanding of EfS endorsed. The thinking modes seek to incorporate the principles informing the definition of 'sustainable development education' endorsed by Education Scotland, but also differ in terms of the explicit focus on future thinking and action competency. The thinking modes clarify the importance of engaging the pupils in critical thought and ownership of their own and their collective future; facilitating pupils to articulate and debate alternative ideas to current society; and participating in both individual and structural change. The integration of the thinking modes in the curriculum is returned to in the following section under the theme of cross curriculum delivery or one subject.

4.4 Key discussions related to EfS

This section critically engages with key discussions that EfS has provoked under the following themes: considerations pertaining to terminology; indoctrination and values; hope versus despair; delivery through cross curriculum or one subject; and evaluation and assessment. This section was written before engaging with practice and the themes are reflected upon in light of practice in chapter seven, section 7.4a. An overview of the key discussions that EfS has provoked in academia help to expand on the understanding of EfS endorsed in this research, including developing an awareness, or sensitivity, to key controversial issues required for developing a strategy for EfS.

There exists a debate within the academic literature over appropriate terminology, reflected in the different terms (more than 20) that authors use to refer to 'learning processes in the field of sustainability issues' (Poeck and Vandenabeele, 2012, 552). The most prominent of these terms is Education for Sustainability (Higgins and Woodgate, 2012), the term used throughout this thesis. Confusion arising over the definition has been identified as a barrier for EfS gaining prominence and potentially raises concerns over the minimum requirements for EfS. However, others argue that the inability to define EfS is indicative of its nature and that it is not the responsibility of the educators 'to lock the definition, content, scope and methodology of EfS into a static time frame' (McKeown, 2002, 26-29). An in-depth account of EfS,

both conceptually and concerning its prominence is covered elsewhere (see Tilbury, 1995; Tilbury *et al*, 2002; Tilbury, 2011). Lee and Williams (2001, 222) distinguish between practical, technical and critical ‘theoretical conceptions of the curriculum’ which are ‘relatively incompatible with each other’ and correspond to the distinction between education in, for and about the environment (See Tilbury, 1995). Other divergent interpretations of EfS are conceived as considering where the emphasis lies: on education or sustainable development. Wals (2009) distinguishes two pedagogical interpretations that demonstrate divergent approaches to EfS and thus the importance of elaborating my understanding of EfS throughout the various chapters:

- ‘1. ESD as a means to transfer the ‘appropriate’ sets of knowledge, attitudes, values and behaviour; and*
- 2. ESD as a means to develop people’s capacities and opportunities to engage with sustainability issues so that they themselves can determine alternative ways of living’ (Wals, 2009, 29)*

A key critique of EfS is offered by Jickling (1992; see also Jickling, 1994), who argued that students should not be educated for sustainable development as the concepts of ‘education for’ and ‘sustainable development’ are inappropriate to guide the planning and implementation of curricula. Jickling debated his stance with Wals in a discussion over the appropriateness of EfS (Jickling and Wals, 2012), in which concerns are raised over the concept of sustainable development and education for a particular ideology, including concerns over indoctrination, whether justified or not, associated with EfS (see Cushman, 1997; Sanera, 1998; Butcher, 2007). In response to Jickling’s concerns I am explicit about the theoretical underpinnings informing my approach to EfS as developed in this chapter, and my commitment that EfS is focused on encouraging pupils to challenge each other’s views and their own rather than a form of indoctrination. Wals’ attitude supports my own, formed through conversations with teachers and pupils, over the educational and conceptual merit of EfS: that the label is far less important than what happens in terms of learning and teaching in the classroom. The issue of terminology and relevance during the pilot projects is returned to in chapter seven, incorporating the issues addressed in the following paragraphs.

The place of values in school education has attracted much academic commentary (see Gardner *et al*, 2000). The concept of EfS has resulted in concerns over the role of values: both indoctrination and negligence (Jickling, 1992). Scott (2002) highlights the importance of striking the right balance between indoctrination

and marginalisation, through articulating four responsibilities of educators to learners, maintaining that to do more would be indoctrination and to do less neglectful:

1. *'To help them understand why a consideration of sustainable development is in their interests*
2. *To use appropriate pedagogy for active engagement with the issues*
3. *To help learners gain plural perspectives*
4. *To encourage learners to continue to think about such issues beyond their formal education'* (Scott, 2002, 12)

As Cairns (2000, 6) highlights, 'the problem facing teachers is a very serious and deep one. Unless the society in which they live and work gives some coherent account of what it considers important in human life then teachers have no real framework in which to operate'. Newfield and McElyea's (1984) reference to promoting the core values in an ethic of care but refraining from teaching particular attitudes is useful in addressing this problem. Newfield and McElyea (1984) explain that when evidence goes unchallenged, without being evaluated, then teachers are teaching attitudes rather than values. Thus, the importance of debate and critical pedagogy for EfS as endorsed in this research. A concern with engaging with values is raised in the policy critique, and insights into engagement with values arising from the pilot projects are discussed in the concluding chapter.

Key to EfS, and an under researched area in the context of school, is the importance of a realistic engagement with current trends without causing despair (see Hicks, 1998; Ojala, 2012). The importance of striking this balance has been emphasised in chapter two: of fostering hope whilst retaining a realistic engagement and not leading to despair, and not relying on simple and painless steps in the conceptualisation of EfS. Jensen's (1992) warning related to 'the New Age aspects of nature based education' and the risk of romantic escapism, both 'the romanticism of nature and introspective romance with ourselves', has wider relevance to EfS. Jensen (1992) emphasises that such education is valuable for other ends but not for solving our environmental problems, including 'the paradox of increasing anxiety and the currently increasing action paralysis'. Jensen (1992) thus stresses the importance of strategies for EfS to be underpinned and informed by research on behavioural change: including engaging with structural issues as highlighted in section 2.5, and the importance of considering the aims, requirements and impact of initiatives orientated

towards EfS. Concern over the required evidence based research in EfS, is addressed in section 5.3a.

An important question for EfS is how effectively EfS can be addressed in pre-existing subjects. This relates to the different approaches to citizenship education in England and Scotland that resulted in the subject citizenship in English schools (see Kerr, 2003). The 'strength model' approach is premised on the belief that many subjects in the curriculum are relevant to sustainable development (McKeown, 2002). Certainly the strength model approach to EfS is 'conceptually attractive' in recognising that no one subject is capable of delivering EfS (Nagel, 2004, 12), especially if one considers 'all education is environmental education' (Orr, 2004, 12). The disciplinary approach conflicts with EfS as it risks fostering a belief that the 'world really is as disconnected as the divisions, services and sub disciplines of the typical curriculum' (Orr, 2004, 22). However, many interdisciplinary entities fail to develop a holistic understanding of how the subjects relate to one another and the interconnectiveness of the world is 'lost in no-man's land between different disciplines [and] become[s] invisible' (Morin, 1999,17; see Knapp, 2000; Nagel, 2004; Kerr *et al*, 2007). Teachers' capacities to deliver EfS is a pivotal issue especially considering the pedagogy endorsed in this research, as introduced at the start of this chapter under the role of education, with the focus on reflection and pupil led learning, and returned to in chapters five and seven. Ultimately all education influences the way in which we engage in the world. As the above sections propose, the pedagogy endorsed for EfS in this research is focused on encouraging pupil led learning, and inspiring critical analysis and reflection. I propose that the pedagogical approach for EfS endorsed in this research may be more challenging, although relevant, to the delivery of courses that have specific material that the pupils will be examined on. The pedagogical challenges associated with EfS and insights arising from interdisciplinary working are returned to in chapter seven.

Evaluation of projects and individual assessment for EfS proves to be a complex issue: how can the value of EfS, with the focus on challenging values and priorities, be assessed, and is assessing individual learning appropriate? There appears to be a gap in the literature assessing the 'longer term learning outcomes from environmental education' and more broadly the 'longer term impacts of the curriculum' (Lord and Jones, 2007, 68; see Rickinson, 2001; Kuhar *et al*, 2010; Wells and Lekies, 2012). This represents a serious shortfall considering that EfS is

orientated towards changing behaviour, attitudes and perspectives. A failure to examine the effects of EfS initiatives, as discussed in section 5.3a, with a focus on evaluation in the classroom during and immediately after rather than more aspirational long term research, supports the 'founding myths of education' indicative of the banking approach to education and the related way in which knowledge is understood. Nagel (2004) emphasises the need for insights into the previous generation's experience of environmental education as a starting point to investigate the weaknesses and strengths of past experience. The student voice merits more research as emphasised in section 5.3a, not only including students' experiences of the current curriculum and knowledge of sustainable development, but also their thoughts, interest and agency concerning their future. This is important considering the aims of EfS to engage the students with reflecting on values, challenging their attitudes and inspiring behavioural change conducive to their understanding of sustainable development. There is also debate over whether or not individual assessment is appropriate for EfS (see Woolfson *et al*, 2009 discussion focused on the capacities endorsed in the CfE). The importance of intrinsic goals to learn have been widely acknowledged (Heyman and Dweck, 1992). However, more research is required to understand how to facilitate EfS through assessment in the classroom. As Kerr *et al* (2009) emphasise, assessing for citizenship is an area still very much under development, including the difficulty of assessing citizenship as a cross-curriculum initiative. As highlighted in chapter five, current policy reform is proposing changes to both school evaluation and assessment. Peer assessment and self-assessment are widely endorsed in proposals to appropriately assess EfS in ensuring that assessment is integral to the learning process, in such cases with the potential to develop reflection (SG, 2011a). Insights relevant to the evaluation of projects and individual assessment for EfS arising from the pilot projects are returned to in the concluding chapter.

Through referring to key discussions EfS has provoked, the concept of EfS referred to in this research is further qualified. Thus themes to be expanded on with reference to practice include: a sensitivity that EfS could result in indoctrination and the importance of clear theoretical underpinnings to encourage pupils to engage in critical thought and discussion; reference to Scott's (2002) responsibilities of teachers when engaging with values; and the importance of a realistic, yet constructive, engagement with trends; and the implementation of EfS in the curriculum, including considerations for assessment.

4.5 What conceptual strategy could underpin the implementation of EfS?

What sort of world do we want? There are piles of cheap T shirts and girls hovering around them, excited, looking for a bargain. Sales. Sales. Sales. What is our utopia? What kind of design principles would support it? How would retail therapy fit in, I wonder. It doesn't make sense.

This section continues the conceptualisation of EfS through addressing the concepts of design and utopianism as potentially fundamental to EfS and the four thinking modes outlined. Section 4.5a addresses the meaning of design and design thinking before identifying four key aspects of design that are integral to my understanding of EfS, with reference to the aforementioned thinking modes. My interest grew from a concern to consider design as 'an expanded activity beyond what currently constitutes the design domain and central to this is the need to develop a world in which nature and humankind co-operate as symbiotic, co-evolving living systems' (Baxter, 2012). Section 4.5b then presents utopianism as a 'tool' to engage pupils in the design process as a method to understand, challenge and advance society. The section grew from a concern that utopianism, an expression of the highest of human aspirations for a society, is frequently used as a derogatory term and a desire to conceptualise utopianism as not only fundamental to sustainable development but as a tool for practical action. The discussion serves as a call to not take the utopian impulse for granted and argues that utopianism should be considered integral to the concept of sustainable development and, by corollary, has relevance for EfS. The section commences with a discussion over the meaning of utopianism, acknowledges the anti-utopian tendency and responds to such critique, before discussing the relevance of utopianism to EfS, with reference to the aforementioned thinking modes.

4.5a Design

This section proposes, and aims to articulate, the design discipline as a promising and fundamental discipline to 'teach thinking' and equip pupils with the propensity and know-how to engage in creating a more sustainable world. Whilst writing I oscillated between excitement that design could provide a helpful and integrative discipline in the shift towards a more sustainable society, specifically in the context of secondary school educational reform, and concern that the meaning that I sought to conceptualise was so pervasive, being interchangeable with other disciplines, that my

thesis would flounder. Indeed Cross (2000, 3), in his paper examining whether or not design could be considered a discipline, emphasises the importance of, and challenge to, 'construct[ing] a way of conversing about design that is at the same time both interdisciplinary and disciplined'.

This chapter is driven by a sense of untapped potential: how appropriate is the design of trowels, as I remember from my design class at school, for a young person compared to considering the design of communities? And is there a space in the school curriculum to encourage logical thinking about how communities are designed and, for example, who to talk to if one has a burning idea to change unsustainable designs? In this section I do not want to question the professionalism of designers but rather emphasise and conceptualise the relevance of design and design thinking to sustainable development and then develop this argument to emphasise the relevance for secondary schools if considered beyond the traditional product orientated definition. Design is conceived as a visionary, pro-active, inclusive discipline. Such a view of design was introduced to me through conversations with my father, a designer, as acknowledged in the personal introduction to this thesis. Through these discussions and wider reading I identified the following interconnected aspects of the design process to clarify the rationale of my focus on design for EfS: it requires data gathering; asking questions about values and priorities; awareness of the system in which one is working, including the synergies involved and resources available; thought about the consequences of one's actions; sensitivity to the multiple factors that will influence the decision making process; self-criticism; creativity and a vision. This understanding of design also resonates with the approach as endorsed in the Centre for the Study of Natural Design established by my second supervisor Professor Seaton Baxter, whose definition of design is quoted in the introduction to this chapter. The opportunity to converse with fellow students at this Centre supported and inspired my belief that design, or more specifically the design process, can provide a helpful framework to discuss decision-making processes. Design thinking should thus be integral to a quality education.

As emphasised in chapter two, through reference to McDonough and Braughart (2002), if the design of the current system were to be evaluated in terms of its appropriateness for a finite planet and its potential to create a situation that fosters harmony, satisfaction and equality, the score would be low. Wahl and Baxter (2008, 72) argue 'Designing for sustainability not only requires the re-design of our habits,

lifestyles and practices, but also the way we think about design'. The meaning of design is contested, giving rise to diverse perspectives and has been described as so broad that it is in danger of saying nothing and as 'widely transformed into something banal and inconsequential' (Heskett, 2002, 1). Design can most broadly be defined as the expression of intentionality (Wahl and Baxter, 2008). Although much commentary has been focused on reforming the design profession in response to sustainable development, my research goes beyond this call. The traditional design discipline refers to the section of society, designers, commonly associated with the material object. Sub-disciplines of design are commonly regarded as architecture, graphic design, interior design, and fashion design. Margolin (1998, 87) claims that the attention to the types of knowledge that equip designers for interdisciplinary work has been overshadowed by a predominant focus on recognising design 'as an art of giving shape to commodities'. Indeed, amongst the many professions called upon as central players in the shift towards a more sustainable paradigm in Agenda 21 (UNESCO, 1992), the design profession failed to attract a mention. This is surprising and worrying considering the common ground shared between design and education. As with education, 'design reflects the predominant values of a society which gives rise to it' and can serve to perpetuate these values (Manzini, 2003). By corollary, both hold the potential to enrich humanity. A neglect of designers in the sustainable development discourse, given their role as 'change agents' (Thomas and Southwall, no date), reflects a failure to examine the design profession and, perhaps more importantly, design philosophy. As Pananek (2000, ix) argues 'Design has become the most powerful tool which man shapes his tools and environments and by extension, society and himself'. This section aims to illuminate that 'the kinds of logic designers use when they are being careful about their reasoning' is as relevant to the way we live as the object (Simon, 1969, 115; Dilnot, 1982; Ekuan, 1997).

Winkler (2001, 54) argues that 'designers are at a crossroads. They either can continue to support ideas and ideals from a different century - continue to make objects and images - or they can take a different road to building cultures'. When the Designer of the Year was awarded to a social activist, Hilary Cottam for employing 'design thinking' to address problems in public services such as schools, prisons and health services rather than someone who considers themselves a 'designer' there was 'an uproar in the design industry' which opened up a 'debate about the contemporary role of design and the need for wider recognition of how it was changing' (MacDonald,

2008, 3). Whilst not wanting to over-elaborate on this example, this research is influenced by a desire to contribute to such a debate in reconceptualising design, linking both theory and practice, articulating the potential for design to be considered fundamental to EfS. As Wood (2007, 116) argues, ‘neither ‘eco-design’ or ‘design for sustainability’ have been powerful enough to tame an economic system designed for limitless growth’. Perhaps the most promising work in the ‘design for sustainability’ movement has already been edging towards metadesign by embracing a more enterprising, adaptive, ‘zero-waste’ society or ‘cradle-to-cradle’ system (McDonough, 2005), and concepts such as participatory and co-design (see Faud-Luke, 2013; Simonsen and Robertsen, 2013; Walker and Giard, 2013). As Orr (2002) maintains, ecological design is as much to do with politics and power as it is to do with ecology. Orr (2002) defines the standard of ecological design as neither efficiency nor productivity but health, maintaining that:

‘the larger design problem has to do with the structure of an economy that promotes excess consumption and human incompetence, concentrates power in too few hands and destroys the ties that bind people together in community. The problem is not how to produce ecologically benign products for the consumer economy, but how to make decent communities in which people grow to be responsible citizens and whole people’ (Orr, 2002, 12 see also Dilnot, 1982; Findeli, 2001; Inns, 2007)

Moholy-Nagy (1946 in Margolin, 1996, 22) described design as ‘an attitude which everyone should have’. This necessitated a qualification of what such an attitude entails, or rather, an examination of the design process and ‘design thinking’. The essence of design has been conceptualised as ‘a set of guiding principles’ (Findeli, 2001); ‘a systems integrator’ (Wahl, 2006); ‘a logical thought process about the state of being’ (Lloyd, 2008); and discussed by Krippendorff (1989) as ‘making sense (of things)’. The emphasis on a future orientation and self-criticism, creativity and awareness as understood in the Centre for the Study of Natural Design links to critical pedagogy. However, the common use of design thinking has been hijacked by industry and risks limiting the potential of design thinking to a contribution geared towards advancing industrial, and unsustainable, goals.

The business interest in ‘design thinking’ stands in stark contrast to the prevalence of interest in education. Tim Brown, CEO of IDEO⁴, names ‘design thinking’ as a methodology where ‘innovation is powered by a thorough understanding, through direct observation, of what people want and need in their lives and what they like or dislike about the way particular products are made, packaged, marketed, sold and supported’ and that ‘thinking like a designer can transform the way you develop products, services, processes – and even strategy’ (Brown, 2008, 1). Brown (2008, 3) characterises a design thinker’s personality profile as presented in Table 4 (2).

Table 4 (2): A design thinker’s personality profile (source: Brown, 2008, 3)

Personality Trait	Description
Empathy	They can imagine the world from multiple perspectives - those of colleagues, clients, end users, and customers (current and perspective). By taking a ‘people first’ approach, design thinkers can imagine solutions that are inherently desirable and meet explicit or latent needs. Great design thinkers observe the world in minute detail. They notice things that others do not and use their insights to inspire innovation.’
Integrative thinking	‘They not only rely on analytical processes (those that produce either/or choices) but also exhibit the ability to see all of the salient - and sometimes contradictory - aspects of a confounding problem and create novel solutions that go beyond and dramatically improve on existing alternatives. (See Roger Martin’s (2009) <i>The Opposable Mind: How Successful Leaders Win Through Integrative Thinking</i>).’
Optimism	‘They assume that no matter how challenging the constraints of a given problem, at least one potential solution is better than the existing alternatives’.
Experimentalism	‘Significant innovations don’t come from incremental tweaks. Design thinkers pose questions and explore constraints in creative ways that proceed in entirely new directions’.
Collaboration	‘The increasing complexity of products, services, and experiences has replaced the myth of the lone creative genius with the reality of the enthusiastic interdisciplinary collaborator. The best design thinkers don’t simply work alongside other disciplines; many of them have significant experience in more than one. At IDEO we employ people who are engineers and marketers, anthropologists and industrial designers, architects and psychologists.’

Despite the relevance of empathy, integrative thinking, optimism, experimentalism and creativity to the knowledges discussed as appropriate for the 21st century, see section 4.3, the business case does not conceptualise design thinking as appropriate for EfS. The business concept unsurprisingly frequently fails to consider the Earth’s carrying capacity, an important perspective when evaluating decisions, given current scientific knowledge. However, as acknowledged above and expanded upon below, consideration of the design discipline has led to thinkers re-articulating design as relevant, or rather fundamental, to both sustainable development and EfS.

⁴ IDEO (pronounced ‘eye-dee-oh’) is an award-winning global design firm that takes a human-centered, design-based approach to helping organizations in the public and private sectors innovate and grow.’ www.ideo.com

The relevance of Design and Design thinking to EfS

In educational discourse, critical thinking, integrative thinking and holistic thinking have been considered key to EfS. Design thinking, despite similarities, has the potential to capture something more fundamental through engaging with the creation of something new; the critical analysis of what one has and engagement with values; relationality; and action. Four key aspects of design are expanded on below in order to emphasise the essence of design thinking and the relevance to EfS under the following four themes: challenging possibility; relationality and holism; values; and empowerment.

Firstly, the creative power behind design thinking is in ‘turning to the modality of *impossibility*’ (Buchanan, 1992, 21). The notion of design bringing forth into being that which was not before, dealing with possible worlds and views about how things should be, overlaps with utopianism, discussed in the following section. The definition found on Wikipedia⁵ of design thinking makes an insightful distinction between critical and design thinking: that critical thinking is a process of breaking down ideas, whereas design thinking ‘is a creative process of building up ideas’. Therefore the design discipline is inherently future orientated and values creativity (Yelavich and Adams, 2014).

Secondly, relationality and holism are central to design. As Fry (2009, 253) emphasises, value is dependent on relationality: ‘the fundamental substances of things upon which everything depends turns on the properties of their relations’. Relevant to the need to challenge linear instrumental thought in a complex system, design goes on designing and therefore relationality should be considered on as broad a scale as possible. A fundamental characteristic of design is considering relationality not only on a spatial but also a temporal scale (Fry, 2009). Relationality, or systems thinking, is fundamental to EfS: in terms of the interdependence of social, economic, and environmental spheres; past, present and future; and local, national, and global spheres.

Thirdly, the design discipline has been described as values in action, expressing intentionality. Fry (2009, 118) names design, ‘whereby ethics (as the character of sustain-ability) becomes embodied in practices and things...In this

⁵ Disclaimer: I recognise that this is not an academic source. However, the use of Wikipedia is befitting to this dissertation concerned with the re-positioning of knowledge. Given that this is not a positivist research project, excluding this idea on the grounds of that it is not ‘academic’ conflicts with the author’s perception of knowledge. The author believes that one should be open to the fact that it is not only ‘academics’ who are capable of ‘deep’ thinking.

respect, 'good design' is futuring'. This incorporates the emphasis on values and priorities discussed as an integral aspect of EfS.

Fourthly, the design discipline is fundamentally about change (Faud-Luke, 2013). Heskett (2002, 5) defines design as 'the human capacity to shape and make our environment in ways without precedent in nature, to serve our needs and give meaning to our lives' which incorporates the widely held idea that design is concerned with improving one's quality of life. The emphasis on change, celebrating our ability to prefigure and act, therefore provides ground for focusing on the meaning and form of action competency embraced as key to EfS.

This section thus developed a critical argument for re-articulating design to focus on design beyond the material object. It highlighted the relevance this has for sustainable development, including an acknowledgement of the business interest in engaging with a broader conception of design and design thinking. The meaning of design and design thinking as endorsed in this research is then developed through a focus on EfS and relevance to the thinking modes.

4.5b Utopianism

As Claeys (2011, 89) proposed, 'we should study Marx, yes; but William Morris may offer us a better account of how democracy might work in the future'. The section comprises an acknowledgement of the contested meaning of utopianism through reference to academics engaged with the field of utopianism. The definition endorsed in this research is clarified through considering the relevance of utopianism to EfS. Before such discussion I acknowledge that the contested definition raises questions about the foundations of our society, essential to address in considering strategies for EfS, as highlighted at the start of this chapter. The definition is thus discussed through reference to the anti-utopian tendency and my response to the critique, including the overlapping issues of divergent beliefs about the nature of man and utopianism as a blueprint; the risk of taking for granted the extent to which, or nature of, the utopic impulse prevalent in today's society; and an acknowledgement of alternative links to why utopianism is fundamental to sustainable development.

The starting point to define utopianism rarely commences without reference to Thomas More, the author of 'Utopia'. Utopia describes a land starkly different from the world in which More knew and lived: More's character Raphael describes a land where wealth is dispersed across society, greed is shameful, and wars are infrequent. The

title, and land to which Raphael brings back such stories, derives from *topos* meaning place, *u* meaning not or the alternative *eu* meaning good. More's book was undoubtedly a social critique. Through transporting the reader outside the *status quo* and articulating a moral sense of the ideal, it was possible to view current society from a different perspective. Varieties of the perfect condition of humanity had obviously caught the imagination across time and space, frequently embedded in religion.

A current theme within the 'utopianism field' is the controversy over the definition. Sustainable development could be viewed as a utopian project: the creation of a way of life fundamentally different from the present, one in which people live in harmony with nature and the world's resources are distributed fairly. Equally, neo-liberal capitalism could be considered as utopic: the belief that prosperity will reign through excessive consumption in a world of limited resources. This paradox stresses the need to articulate a useful concept, as I seek to do through responding to the critiques and emphasising the relevance of utopianism to EfS. Despite utopianism as a field of academic study - influential thinkers are referenced below - a shared definition is elusive. Utopianism may appear so vague and all-encompassing as to mean nothing. The New Penguin English Dictionary (Allen, 2000, 1552) defines utopia as: '1. an imagined place or state of perfection, especially with regard to laws, government and social conditions, and 2. an impractical scheme for social or political improvement'. Similar to the various qualifications of hope (see Singh and Sawyer, 2008) there has been much discussion in academia qualifying the definition of utopianism (see Moylan and Baccolini, 2011). Mannheim (1935, 201), for example, discusses the distinction over ideology and utopianism, referring to two forms of mental constructs, emphasising that utopian relates to thought that 'receives its impetus' from concepts rather from the direct source of reality: 'They are ideological if they serve the purpose of glossing over or stabilizing the existing social reality; utopian if they inspire collective activity which aims to change social reality to conform with their goals, which transcend reality'. Such connotations of utopianism, with critique through research of the *status quo* and the aspiration to motivate and inspire change, are key to EfS. Sargent (1994, 4) maintains that the study of utopianism has been restricted by the 'use of a single dimension to explain a multi-dimensional phenomenon' and defines three overlapping aspects of utopianism in order for more systematic and productive discussions: 'the literary (to which could be added other artistic representations and imaginings of alternatives), the communitarian, and

utopian social theory' (Sargent, 1994, 4). Moylan (1986, 10-11) qualifies critical utopianism, a characteristic being an 'awareness of the limitations of the utopian tradition', and Bloch (1986) makes a distinction between the 'abstract' and the 'concrete' utopia (see also Levitas, 1990). For the purpose of this research, rather than discuss the aforementioned qualifications utopianism is clarified through reference to EfS, after acknowledging the anti-utopian tendency.

Many have argued that utopianism has ended up at the sidelines and stressed its slightly embarrassing connotations. As Sargisson in (Moylan and Baccolini, 2011, 319) claims, utopia is 'rejected, ignored and vilified by scholars of politics as well as policy makers and the general public'. Criticism has contributed to the development of the term as something deemed impossible, impractical or as futile speculation or idealistic dreaming and not worth an expense of energy. A search for 'utopia' and 'utopianism' in several main news channels: the BBC, Al Jazeera and The Guardian confirms utopia is frequently used as a pejorative noun, a totalitarian drive to achieve, at all costs, the vision of a perfect society in the eyes of a few. Pol Pot's regime, Mao's Cultural Revolution, Stalin's gulags have frequently been historicised as grand utopian schemes delivering unimaginable human suffering. In fiction, the danger of utopian ideas and principles implemented by all powerful dictatorial states have been conceived in Aldous Huxley's *Brave New World* (1932) and George Orwell's *Nineteen Eighty Four* (1949) reinforcing a dangerous conceptualisation of utopia (dystopia). Thus, such a link with dystopias highlight the value in re-conceptualising utopianism and reflecting on the relevance for sustainable development and EfS.

Utopianism, as with any political ideology, provides fertile ground for debating one's faith in the nature of mankind, reality and agents of change within society, including the danger of a blue print. Aristotle, for example, disagreed with Plato's belief in visualising a better society, arguing for a realistic understanding of the nature of mankind and the system. Engels (1892) was influential in tarnishing utopianism through comparing 'utopian socialism' unfavourably to Marx's 'scientific socialism'. The idea that utopianism can serve as an achievable goal through the creation of small communities was popularised by utopian socialists: for example Robert Owen, Charles Fourier, Henri-Saint Simon, Etienne Cabet (from the 19th century). Marx criticised utopian socialists for their assumptions about human nature and ability to construct a better future free from domination (McLean and McMillan, 2003). Such criticism finds support in the extent that media controls attitudes, corporations create false needs,

governments are associated with rhetoric, and the ideological control that society has over common projects is in decline (Alexander *et al*, 2011; Coote, 2015) This is returned to as a reason to value the potential of utopianism and utopic thought for sustainable development, considering the importance of faith in mankind and engaging with intrinsic values as highlighted in chapter two. Indeed, divergent beliefs about the nature of mankind, and as such the instruments of change, constitute a fundamental difference between utopian and anti-utopian theorists. Utopianism has divided religious followers contributing to an interesting debate not examined in this thesis. Molnar (1967), a devout Christian, argues that assumptions about human nature made by utopian thinking are frequently unrealistic and naïve: due to the sinful nature of mankind we are incapable of living in the kind of world conceived by utopianism. Others regard utopianism as a fundamental part of Christianity (Tillich, 1971). The appropriateness of engaging with utopianism thus resonates with the ambition to conceive a participatory and thinking society with optimism about developing a more sustainable future as proposed in chapter two, and is expanded on in considering the relevance of utopianism to EfS.

Karl Popper is often credited with the conceptualisation of utopianism as a blue print: 'the Utopian approach can be saved only by the Platonic belief in one absolute and unchanging ideal, together with two further assumptions, namely (a) that there are rational methods to determine once and for all what the ideal is, and (b) what the best means of realization are' (Popper, 1945, 151). Those convinced of the importance of utopic thought do not endorse the idea of a blueprint without reflexivity, or an awareness of the challenges and consequences of social change. In response to such criticism, defenders of utopic thought do not equate utopia as a blueprint. For example, Hedrén (2009, 221) stresses the contradictory quality of utopia as 'simultaneously another place and no place', and as such it should not be associated with 'a perfect blueprint for a real society, a plan to implement completely'. The criticism constitutes an interesting academic argument which fails to appreciate the distinction between utopianism as a totalitarian regime and the importance of utopic thought which involves individuals critically conceiving and challenging their utopias or articulating an expression of the highest human aspirations to be discussed, critiqued, and compared to 'reality'.

Jameson (2004, 35) maintains that 'the waning of the utopian ideal is a fundamental historical and political symptom which deserves diagnosis in its own

right'. There has never been such an urgent imperative to value the potential for utopic thought because of the discussed 'deterioration of civilization' (see chapter two) and its ability to 'recover the category of hope' (Block, 1986). Hope is considered the determining factor in whether or not this crisis is viewed as a disaster or opportunity, and is essential to what it is to be human (Freire, 2004; Anderson, 2006). The world is not lacking in (visions of) utopic bodies, holidays and lifestyles. The 'clash of civilizations', 'regime change', 'sustainable development' could be considered as evidence that utopic thought is prevalent in today's society. However, whether or not such aspirations are critical and holistic visions that have been discussed, critiqued and debated is at best controversial. Singh and Sawyer (2008, 224) emphasise that 'utopianism and hope are in conflict with fast capitalism and neo-liberal values' (see Inglis, 2004; Layard, 2005). A concern with societal change in a capitalist system was introduced in section 2.4, with reference to social theorists' articulation of hegemony and alienation, and briefly returned to here highlighting the risk of taking for granted the utopian thought in today's society. Many people's lifestyles and the needs which fuel our economic system are not in keeping with any ideal of a better society, reflected in our age been characterised by technological determinism (see Klein, 2000; Hertz, 2001). Sardar (2002) argues that pragmatism, a less demanding form of politics, shrouded in the goal of safeguarding freedoms, is undermining our capacity to think. However, Legrain (2003, 127) criticised Klein (2000) in her persuasive articulation of the disappearance of public space, the domination of corporate brands and the creation of 'false needs', arguing for more faith in people's capacity for self-determination. Indeed political engagement in Scotland and ideas and energy contributing to moving towards sustainable development should be acknowledged and celebrated (see for example, SG, 2005; SG, 2010c; SG, 2014; SG, 2015) However, critiques of the risk of psychological deterioration, the increasing opportunities for instant entertainment and satisfaction, and waning hold on the future of the 'general population' abound. Such critiques indicate the enormous potential for improvement and alternative approaches to development (see Monbiot, 2001; Abdullah and Jeffrey, 2014; Coote, 2015). The definition of politics as 'the art of the possible' firmly establishes that what is at stake here is who defines possibility and the importance of ideas and ideals (Coote, 2014). Thus, it is important to emphasise the risk of taking for granted the extent and nature of utopic thought in today's society.

This section has acknowledged that the contested definition of utopianism raises simple, yet not simplistic, questions about the foundations of our society. The links between utopianism and sustainable development have attracted diverse approaches (see Lotz-Sisitka, 2008; Jabareen, 2008). For example Hedrén and Linnér (2009) present utopianism as integral to sustainable development with a unique potential power to critique, challenge and re-energise politics. Hedrén and Linnér (2009) highlight three aspects of utopian thought integral to sustainable development through identifying fundamental aspects of modernity which are transcended in its use: 'blueprints' or the notion of fixed final goals for politics; scientification or the notion of fixed truth; and nationalism or the notion of fixed territoriality'. This research proposes an alternative link with sustainable development and EfS, detailed below.

Relevance to EfS

Critical education could be seen as intimately linked to utopianism, through its focus on consciousness, ownership of ideas and optimism about social change. There is a wealth of literature (Halpin, 2003; Freire, 2004; Giroux, 2005) connecting education and hope with a specific vision of democracy: 'one that renews a focus on equity and equality' (Singh and Sawyer, 2008, 225). This section examines the relevance of utopianism to EfS through the following four overlapping themes emerging from the analysis above: a vision and critique; human goodness; interdisciplinarity and holism; and sustainable development as a process. A simple reference is made to the four thinking modes in order to explicitly relate utopianism to EfS.

Firstly, utopianism encompasses both a vision and critique, both essential aspects for change. Anderson (2006) highlights that conceiving utopia as a pejorative noun implies that departing from reality is negative, a deeply surprising and unwise stance considering the desperate need for a paradigm shift. Indeed, a fundamental barrier to sustainable development is an inability to challenge norms, our notion of practicality and appropriateness; and a tendency not to have time and space to consider a better alternative, as discussed in chapter two. The importance of critique is eloquently addressed by Argyris *et al* (1985), overlapping with the reference to barriers to societal change in a capitalist system in section 2.4 and the importance of critical education in section 4.2:

'In social life, the status quo exists because the norms and rules learned through socialization have been internalized and are continually reinforced.'

Human beings learn which skills work within the status quo and which do not work. The more the skills work, the more they influence individuals' sense of competence. Individuals draw on such skills and justify their use by identifying values embedded in them and adhering to these values. The interdependence among norms, rules, skills, and values creates a pattern called the status quo that becomes so omnipresent as to be taken for granted and to go unchallenged. Precisely because these skills are automatic, precisely because values are internalized, the status quo and individuals' personal responsibility for maintaining it cannot be studied without confronting it' (Argyris et al, 1985, xi)

The importance of visioning has been advocated by many. In the preface to *Technology, War and Fascism: Collected papers of Herbert Marcuse*, Kellner (1998, xiv) explains that 'Marcuse subscribes to the project of reconstructing reason and of positioning utopian alternatives to the existing society – a dialectical imagination that has fallen out of favour in an era that rejects revolutionary thought and grand visions of liberation and social construction'. Reflection on the controversial presence of 'revolutionary thought and grand visions' in current society was briefly addressed above, maintaining the relevance of this analysis. Utopianism is unique in fostering such 'a dialectical imagination', the closest possible to an alternative to the *status quo*. Eliciting visions, and articulating dreams, or well thought out aspiration, enables comprehension of the possible futures available and comparison of utopian alternatives to the existing society. Through articulating a sense of the ideal, the failings of real societies and their political arrangements are put into perspective. It is through this project that reason can be reconstructed to challenge existing society and from this standpoint that the alternatives, possibilities and limiting factors are made tangible (Gidley and Inayatullah, 2002). Therefore the first aspect of utopianism integral to EfS is in providing 'space for challenging what is, for disrupting dominant assumptions about social and spatial organisation, and for imagining other possibilities and desires' (Pinder, 2002, 238) and as such concerned with 'overtaking the natural cause of events' (Bloch, 1986). This directly overlaps with future thinking and the need to reconsider our values and priorities.

Secondly, although aware of humanity's vices for greed and short-sightedness resulting in the case for change as presented in chapter two, the proposal to engage with utopianism has potential to reinforce human goodness and the potential for

'positive' social change. An underlying theme throughout this thesis is the danger of a world of apathy and resignation to the *status quo*. Cynicism has been frequently cited as one of the greatest barriers towards sustainable development (see Lowe, 2006; McKinley, 2008; Lomberg, 2009) and therefore a space to educe the best in man and tap into human goodness is required. Utopianism has potential to generate faith in a better society and build a sense of community through focusing on better alternatives. It is hypothesised that discussions about what a better future means, thus focusing on opportunities rather than impending disaster, would provide potential to recognise a collective spirit of educating the best in people. The desire to develop an optimistic understanding of human nature stands in stark contrast to the negative image of people reinforced by the news from the treatment of people escaping war to environmental deterioration (Cardinale *et al*, 2012; Symonds, 2015). It is hypothesised that discussions would provide reflection on how to educe goodness and reconnect with and reinforce intrinsic values, as such contributing to the understanding of system thinking; future thinking; an emphasis on values and priorities; and action competencies.

Thirdly, utopic thought and utopianism frequently relate to questioning and designing a society in full operation, which requires interdisciplinarity and holism or systems thinking as referred to earlier in this chapter. Kumar (1987) conceived utopia as a description of the best society in full operation. Similarly Hedrén (2009) attempts to convey the nature of utopian thought through stipulating certain criteria to be met, highlighting the holistic approach required for sustainable development, and by corollary EfS, and implicit in utopian thought:

- (1) *'a declaration of basic values and fundamental moral principles is included,*
- (2) *the basic institutions are described (for example the knowledge production system, the security system and the political system),*
- (3) *the basic social, economic and ecological relations, locally and globally, are described,*
- (4) *the typical character of space and spatial relations is described and*
- (5) *a narrative of political and daily life is included'* (Hedrén, 2009, 224)

As presented in chapter two, sustainable development is viewed as an acknowledgement that discipline boundaries must be transcended: not only the spheres of the environmental, economic and social realms but also the emotional

realm and the rational scientific school of thought. Utopianism has potential to provide the foundations for holistic learning relating to different spheres: temporal, linking into the critique and future vision; and scientific and emotional, with the emphasis on values and priorities. As such utopianism has potential to transcend boundaries: drawing on other subjects in the curriculum, and also between the individual, class and the four walls of the school through dialogue and the creation of the conditions for hope.

Lastly, sustainable development is conceived of as a process, an adjustment of 'decision making' and lifestyles. As emphasised in chapter two, sustainable development is not blue print, a set of pro environmentally friendly competencies, or simple and painless steps, but relevant to all as a continued discussion about how best to live in local communities and as global citizens. Thus the above characteristics of utopianism, as discussed under the themes of a critique and a vision, human goodness, and interdisciplinarity, have potential to inform the meaning of action competency through developing mind sets pre-disposed to engage with the immediate local and wider world.

As detailed above, the focus on developing a vision of a better society and critiquing the *status quo*; creating an environment that focuses on the potential for positive change; developing an appreciation for a holistic understanding and conceiving sustainable development as relevant and emergent, rather than a pre-determined blueprint, emphasise the contribution of a reconceptualised understanding of utopianism to EfS.

4.6 Chapter summary

This chapter has expanded on the previous methodology chapter in a discussion over valuable knowledge and develops the understanding of EfS referred to in this research. The chapter has emphasised the importance of engaging with the role of education and the knowledges appropriate for the 21st century, in order to develop a strategy for EfS. Key thinking modes appropriate for EfS were outlined in order to introduce and construct the understanding of EfS referred to in this research: system thinking, future thinking, an emphasis on values and priorities and action competency. These four key thinking modes were introduced in chapter two, section 2.5, in developing the case for change and reiterated as key to EfS. The thinking modes are further qualified with reference to practice in section 7.3b, *analysis of theory in the*

classroom. Reference to key themes in the academic debate highlight the controversial nature of EfS and need for clarity when discussing EfS, including concerns over terminology, indoctrination and values, delivery through cross curriculum or one subject, and appropriate criteria to evaluate and assess EfS. These themes are reflected on in light of the pilot projects in section 7.3c, *analysis of pedagogy.*

The subsection on the concepts of design and utopianism situates the original philosophical underpinnings of the conceptual framework for the pilot project in the field of academic thought addressing, conceptualising and problematising design and design thinking and utopianism and utopic thought. The relevance of the concepts is highlighted with reference to the four thinking modes endorsed as my framework for EfS. The concepts contribute to developing the concept of EfS endorsed in this research, with a focus on pupils reflecting on their role in society and interests, articulating their understanding of sustainable development and taking initiative. Design and utopianism are thus conceptualised as very relevant to guide EfS: through discussing and articulating a society in full operation; challenging current society; and focusing on alternatives. The concepts emphasise the importance of engaging pupils in both structural and individual change, optimism about the future, research and debate and developing ‘the tools’ and know-how to build on pupils’ ideas.

Thus this chapter clarifies the understanding and theoretical underpinnings of EfS which informed the proposal for the pilot projects. The form of the proposed pilot project in terms of the conceptual framework and the delivery in practice is documented in chapter six. The following chapter commences the discussion on the policy context for EfS at a secondary school level as preparation for the pilot projects, with a sensitivity to the challenges and idealistic understanding of EfS as endorsed in this chapter. The theoretical underpinnings are returned to in the concluding chapter in which theory and practice are united. Chapter seven reflects on, and analyses practice with reference to the normative understanding of EfS endorsed in this chapter and the current policy context, identifying key issues for EfS implementation.

Chapter Five

Policy Context and Practice

5.1 Introduction

Having clarified the epistemological approach permeating the research in chapter three and developed a possible conceptual framework to underpin practice in chapter four, this chapter explores the extent to which the Scottish policy context and curriculum facilitate EfS in the secondary school sector. An understanding of the Scottish policy context and curriculum was considered important to develop a strategy for EfS as policy provides an interface between government intent and practice. Thus this chapter served as important grounding to enable discussion of the pilot project with teachers in terms of current policy. Part one of this chapter, the policy context, is a recognition of the commitments endorsed in policy to ensure that education is key to conceiving sustainable development. Part one comprises of three sections introducing: the UN Decade of Education for Sustainable Development (UNDESD hereafter), section 5.2a; a background to Scottish policy for EfS, section 5.2b; and the recent reforms Curriculum for Excellence (CfE hereafter), section 5.2c. Scotland's success in engaging with EfS was acknowledged by Mark Richardson, Director of UN Priorities in Education who, addressing a conference in 2009, commented: 'I am pleased to see that Scotland is taking a lead in ESD' (CIFAL Scotland, 2013). However, the quality of EfS is not clear-cut as discussed in part two: a critique of policy and practice. Part two, a critique of policy and practice, comprises of four key sections: the status of evidence based research on EfS, section 5.3a; progress, opportunity and concern for EfS implementation, section 5.3b; and a critique of CfE policy, section 5.3c. The opportunities and challenges identified by previous researchers facilitate the analysis in this research by enabling me to develop a sensitivity to potential barriers and opportunities in the analysis of the pilot projects, as returned to in the concluding chapter. The chapter mainly focuses on policy and critique post-2004 spanning the UNDESD, to enable depth of critical analysis and to capture current thinking on the status of EfS at the time of the pilot projects starting in 2010 to 2012. I acknowledge that I am writing at a time of rapid and exciting curriculum and broader educational policy change. This research is conducted with a particular interest in EfS implementation and thus teacher voice, reflected in the research drawn upon in part

two to inform the critique.

As acknowledged in the previous chapter, the debate over terminology is relevant when engaging with policy and critique. Learning for Sustainability has increased in prominence in the policy context in preference to EfS (One Planet School Working Group, 2012). However, EfS is the most commonly used term to refer to learning associated with sustainability issues (Higgins and Woodgate, 2012), and as such is used throughout the thesis. I use EfS in the main text for consistency, with the exemption of quotes in which the author's original is used.

It is important to note in the critique of the status of EfS that my prior experience has shaped this evaluation, as acknowledged in Table 3 (2): including my involvement with eco-school assessment, time spent at an outdoor education centre and working with secondary schools through the NGO sector. Such prior experiences led to concern over a mismatch between policy, teachers' views, and what was being delivered in the classroom. It is also important to acknowledge that I am evaluating EfS from an idealistic position, as conveyed through reference to the conceptual strategy in section 4.5 and section 6.1.2. However, my idealism is balanced with the desire to contribute a practical response to EfS implementation, as documented in the following chapter.

Part one: The Policy Context

5.2a The UN Decade of Education for Sustainable Development

This section pays homage to UNDESD through a brief background to UNDESD; the understanding of EfS endorsed; and a brief acknowledgement to progress, challenges and action areas. Reference to UNDESD as a global initiative provides an appropriate introduction to this chapter. During the scoping stage, material produced as part of UNDESD provided a focal point for initial investigations into EfS. Such investigations contributed to developing a theoretical sensitivity to different conceptualisations of EfS and the potential challenges and opportunities to implement and evaluate EfS. The growing respect for, and interest in, EfS on a global level is reflected in this section. As will be discussed, Scotland developed Action Plans (SG, 2006a; SG, 2010a) as a response to the UNDESD. Despite the focus on Scotland in this research and appreciation that EfS is context specific, the potential for learning across cultures and

countries provides opportunities to enhance EfS. Therefore, reference to UNDESD presents the foundations for the pilot projects as potentially contributing to the global challenges and opportunities as discussed in chapter two.

On the 1st of January 2005 the UNDESD began: ‘to promote education as a basis for a more sustainable society and integrate sustainable development into education at all levels and all areas of life, including communities, the workplace and society in general’ (SG, 2013b, 1). Three seminal conferences were held before the establishment of UNDESD resulting in The Stockholm Declaration in 1972, the Belgrade Charter in 1975, and the Tbilisi Declaration of 1977. Internationally, education was established as an essential driving force for change at the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992, resulting in the development of Agenda 21 (UNESCO, 1992). Chapter 36 of Agenda 21, which builds on the recommendations made at the Intergovernmental Conference on Environmental Education held at Tbilisi in 1977, states: ‘education is critical for promoting sustainable development and improving the capacity for people to address environment and development issues...It is also critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development’ (UNESCO, 1992, 36). The Johannesburg Summit in 2003 led to the designation of the decade 2005-2015 as the UNDESD and United Nations Educational Scientific and Cultural Organization (UNESCO hereafter) was appointed Task Manager of Chapter 36 of Agenda 21 on ‘Education, training and public awareness’. The UN General Assembly resolution 59/237 sets out the main goals for the DESD. The following objectives of the DESD were to:

1. *‘facilitate networking, linkages, exchange and interaction among stakeholders in ESD;*
2. *foster an increased quality of teaching and learning in education for sustainable development;*
3. *help countries make progress towards and attain the millennium development goals through ESD efforts;*
4. *provide countries with new opportunities to incorporate ESD into education reform efforts’* (UNESCO, 2005, 6).

UNESCO (2009, 1) conceptualises EfS (original label used: ESD) as '*about learning to:*

1. *respect, value and preserve the achievements of the past;*
2. *appreciate the wonders and peoples of the Earth;*
3. *live in a world where all people have sufficient food for a healthy and productive life;*
4. *assess, care for, and restore the state of the planet;*
5. *create and enjoy a better, safer more just world;*
6. *be caring citizens who exercise their rights and responsibilities locally, nationally and globally'* (UNESCO, 2009, 1)

At a European level, the Third Ministerial Conference 'Environment for Europe' endorsed a Programme that focused on the delivery of Agenda 21 in a European context, including a commitment to EfS (UNECE, 2003). UNESCO has carried out its role of giving prominence to EfS through initiating many meetings, workshops, conferences and research. The UNDESD website provides a wealth of information and highlights events; progress reports, including 'DESD Progress to date' published quarterly; initiatives; and EfS resource material.

Given the context specific nature of EfS, it is the responsibility of the state to devise its own Action Plan for implementing EfS. UNESCO acknowledges the enormity of the task to reorient the educational system and stresses the importance of partnership: as Bory-Adams explains 'UNESCO believes that its role is similar to a shepherd' (Bory-Adams, 2006). Various international stakeholders and civil society networks support EfS. The mid-decade review (Wals, 2009) draws on self-reported contributions, including the Foundation for Environmental Education (FEE), which runs an Eco-schools programme, and the OECD Environment and School Initiatives.

As Wals (2009) highlights, attributing progress in EfS to the establishment of the DESD is incredibly difficult, perhaps impossible. Reviewing a UN Decade in progress is highly complex when considering the geographical scope (the globe); the time-frame (10 years); the ambition to affect multiple levels of governance and to bring in multiple stakeholders and marginalised groups and voices in society; and finally, the different meanings attributed to EfS. However, the DESD Monitoring and Evaluation Expert Group (MEEG) was established in 2007 'to advise on appropriate monitoring mechanisms for assessing: 1) global progress in the implementation of the DESD; and 2) UNESCO's own contribution to the implementation of the DESD' (Wals, 2009, 10).

The MEEG called for a Global Monitoring and Evaluation Framework (GMEF) for the UNDESD. Two key reports on the UNDESD published are: *Learning for a Sustainable World: Review of Contexts and Structures for Education for Sustainable Development* (Wals, 2009) and *Shaping the Education of Tomorrow* (Wals, 2012). The first review aimed to ‘highlight the provisions and structures that have been put in place around the world for the development of ESD’ (Wals, 2009, 10) through focusing on the structures and frameworks in place rather than the quality of EfS in achieving the goals of the UNDESD. The second review ‘focuses specifically on processes and learning in the context of Education for Sustainable Development (ESD). What kinds of learning processes have emerged in the course of the UNDESD? What is the role of ESD in supporting them? What changes in ESD have occurred since the early years of the Decade?’ (Wals, 2012, 5).

The following section provides a brief introduction to the meaning of EfS endorsed in policy related to the UNDESD; and a very general introduction to progress, challenges and suggestions for the future arising from the UNDESD, drawing on the two aforementioned reviews.

Understanding of EfS

Both reviews commence with defining EfS. Chapter three of review one (Wals, 2009) is entitled ‘Meaning of ESD’ and addresses: the different pedagogical interpretations of EfS; key words frequently associated with EfS; and the relationship between EE, other ‘adjectival educations’, and EfS. The chapter refers to three dimensions (the socio-cultural dimension, the environmental dimension, the economic dimension), and explains that the closer education is to integrating the dimensions the more ‘fully fledged’ the practice of EfS. Due to the very nature of the second review (Wals, 2012) references to frameworks addressing the concept of EfS were provided. Lenses of EfS were distinguished: ‘an integrative lens’, ‘a critical lens’, ‘a transformative lens’, and, ‘a contextual lens’; and different forms of learning associated with EfS and key processes that underpin EfS as outlined in Table 5 (1).

Table 5 (1): Theory underpinning EfS as endorsed in UNDESD review (Tilbury, 2011, 7-8 in Wals, 2012, 11-12)

Conceptualisation of learning for EfS	Key processes that underpin EfS
<ul style="list-style-type: none"> • learning to ask critical questions; • learning to clarify one's own values; • learning to envision more positive and sustainable futures; • learning to think systemically; • learning to respond through applied learning; • learning to explore the dialectic between tradition and innovation. 	<ul style="list-style-type: none"> • processes of collaboration and dialogue (including multi-stakeholder and intercultural dialogue); • processes which engage the 'whole system'; • processes which innovate curriculum as well as teaching and learning experiences; • processes of active and participatory learning.

The second review recognises that through engagement with EfS: 'Underlying is a basic question about education itself: Is education above all about social reproduction or about enabling social transformation? This question is not answered the same way everywhere, and educators therefore have different visions of how the educated citizen interacts in society' (Wals, 2012, 21-22). UNESCOa (no date) recognises that 'Teachers and educators are the cornerstone of effective ESD programmes...[and] an efficient implementation of the Decade requires engaging [teachers]...to learn the pedagogy, content, values and good practices associated with ESD' (see also UNESCOb, no date).

Progress, challenges and action areas

Both reviews outlined progress related to the status and implementation of EfS; see Table 5 (2).

Table 5 (2): Signs of progress related to EfS implementation identified in UNDESD reviews

First review (adapted from Wals, 2009, 40)	Second review (adapted from Wals, 2012, 5)
<ul style="list-style-type: none"> • the creation of national coordinating bodies for EfS and interdepartmental collaboration • the development of EfS policy • measures taken to conserve, use and promote knowledge of indigenous people with respect to ESD • the availability of EfS tools and materials • the allocation of specific budgets for supporting EfS 	<ul style="list-style-type: none"> • EfS is emerging as the unifying theme for many types of education that focus on different aspects of sustainability • EfS is increasingly perceived as a catalyst for innovation in education, including partnership working • As EfS progresses, a co-evolution of pedagogy is occurring • Anecdotal evidence exists that EfS is related to academic gains as well as boosting people's capacities to support sustainable development • Within the UN system, EfS's role is more prominent

However, many of the challenges to implement EfS identified problematise the signs of progress; including difficulties in co-ordination and making linkages; funding constraints; difficulties in assessment; and teacher capacity (Wals, 2009). For example:

‘Little evidence was provided in the mid-term review that there are policies in place in formal education, professional development and teacher training that encourage educators to become reflective practitioners themselves and to conduct their own research. There are, however, some networks of practitioners and academics that seek to bridge the theory practice divide using forms of action research to improve practices’ (Wals, 2009, 62).

The second review also raised challenges, for example: ‘there is still a need for more traditional, directive approaches and tailor-made ESD materials that can easily be adopted by teachers in primary and secondary schools, for instance’ (Wals, 2012, 23). However, the second report (Wals, 2012) claimed that EfS was generating exciting new approaches to pedagogical reform. UNESCO claims that ‘a growing number of teacher education institutions are integrating ESD principles into their education and training practices’ (UNESCOa, no date). The International Network of Teacher Education has been identified as a prominent platform for EfS on an international level. There are various institutions such as the Berkeley Centre for Eco-literacy and a range of non-governmental organisations providing training courses and resources for teachers. There are several publications stipulating action areas for the second half of the Decade, see for example McKeown (2007) and Mula and Tilbury (2009). The action areas identified in the first (Wals, 2009) and second review (Wals, 2012) are presented in Table 5 (3).

Table 5 (3): Summary of action areas endorsed in the UNDESD key reviews

First Review (adapted from Wals, 2009).	Second Review (adapted from Wals, 2012)
<ul style="list-style-type: none"> • Clarification over the concept of EfS • Raising awareness about good practice • Analysis of how policy and curriculum facilitates EfS • Develop methods to research EfS and evaluate practice 	<ul style="list-style-type: none"> • More research to document that EfS is quality education • Identification of key change agents and strategic leverage points to improve initiatives in terms of action, reach and efficiency • Efforts should be made to work within climate change, biodiversity, and disaster risk reduction education to develop them as concrete examples of EfS

Indeed, this research aims to contribute to the action areas as summarised in Table 5 (3). The research aims to document quality EfS underpinned by clear theoretical underpinnings that overlap with the conceptualisation of learning for, and the process that underpin EfS, as presented in Table 5 (2). Many of the themes identified in Tables 5 (2) and 5 (3) are returned to in chapter seven in terms of the insights arising from practice. Such themes include EfS in policy; promoting knowledge of indigenous or local people; the availability of support; the variation in EfS delivery as a unifying theme; partnership working; and EfS and academic gains.

5.2b A background to Scottish policy for EfS

This section provides a background to Scottish policy on EfS, with a very broad overview of Scotland's action plans for the UNDES (SG, 2006a; SG, 2010a); and an introduction to the establishment of a UN Centre of expertise, Learning for Sustainability Scotland, and a key report Learning for Sustainability (One Planet School Working Group, 2012). The status of EfS is further addressed through the focus on CfE in which themes raised in this section are expanded on in the following section including key players and their responsibilities in Scotland; the way in which EfS is embedded in CfE; the approach to teaching and teachers perspectives; and the approach to assessment.

Nationally, the Scottish Government prides itself on its academic reputation (SE, 2004a). Scotland was the home of Sir Patrick Geddes (1854-1932) who is regarded by many as the father of environmental education (Smyth, 1996) and Professor John Smyth, a key influence in the aforementioned chapter 36 of Agenda 21. It is important to acknowledge *Agenda 21* (UNESCO, 1992) as an important influence on the Scottish commitment to EfS, and Britain's wider commitment to sustainable development. Especially since 1992, when the UK government became a signatory of Agenda 21, there have been many policy documents endorsing the principles of EfS. A report by Learning and Teaching Scotland (LTS, 2004) has summarised key developments concerning EfS in Scotland to 2004. An introduction to the Scottish context for EfS is provided in the Regional Centre for Expertise Scotland Application document (Higgins and Woodgate, 2012, see also Lavery and Smyth, 2003; McNaughton, 2007; Higgins and Lavery, 2013). Since the Scottish Parliament passed its first Education Act (the Standards in Scotland's Schools etc Act) in 2000, there have been several major Scottish Government policy initiatives relevant to EfS,

as is outlined in Table 5 (4), informing the proceeding overview of the policy context. A range of reviews and discussion papers relevant to the status of EfS in a Scottish secondary school context inform part two, *a critique of policy and practice*.

Table 5 (4): Key policy documents from the Scottish Government and HM Inspectorate of Education informing overview of policy context

Year	Title	Publisher
2004	A Curriculum for Excellence: The Curriculum Review Group	Scottish Government
2004a	Ambitious, excellent schools: our agenda for action	Scottish Executive
2004b	Happy Safe and Achieving their Potential	Scottish Executive
2006	A Curriculum for Excellence: Progress and Proposals	Scottish Executive
2006a	Learning for our Future: Scotland's first action plan for the UN Decade of ESD	Scottish Government
2006b	Building the curriculum 1: the contribution of curriculum areas	Scottish Government
2006	Education for citizenship: A portrait of current practice in Scottish Schools and pre-school centres	HM Inspectorate of Education
2007	How good are we? How good is our school? How good can we be? The Journey of Excellence: Part 3	HM Inspectorate of Education
2008	Building the Curriculum 3: a framework for learning and teaching	Scottish Government
2008	Curriculum for Excellence: final report draft experiences and outcomes	Scottish Government (author: University of Glasgow)
2009	Building the Curriculum 4: Skills for learning, skills for life and skills for work	Scottish Government
2010a	Learning for change: Scotland's Action Plan for the second half of the UNDESD	Scottish Government
2010	Teaching Scotland's Future: Report of a review of teacher education in Scotland	Scottish Government (author: Donaldson, G)
2011a	Building the Curriculum 5: A framework for assessment	Scottish Government
2011b	Continuing to build excellence: the Scottish Government's response to teaching Scotland's future	Scottish Government
2013a	Learning for Sustainability: the Scottish Government's response to the Report of the One Planet Schools Working Group	Scottish Government

A Curriculum for Excellence sets out the values, purposes and principles for the Scottish curriculum 3-18 and is the focus of the following section after a brief background to EfS policy in Scotland. In 2004, The Sustainable Development Education Liason Group (SDELG) was established with a remit that included co-ordinating and facilitating the implementation of Scotland's first action plan for the DESD, wherein EfS is endorsed and conceptualised as follows: 'the purpose of sustainable development is not to tell people what is important and what they should do, but to enable them to decide what is important to them, decide what they want to do about it, and equip them with the skills they need to do it' (SG, 2006a, 3). The vision of sustainable schools in Scotland endorsed in the first action plan (SG, 2006a) was

outlined as follows:

- *'Education for sustainable development, in the context of the school curriculum, clearly helps young people to become responsible citizens*
- *Classroom learning is set within a whole school approach that promotes the same values*
- *Schools are modernised and improved based on sustainable design principles*
- *Schools have access to the highest quality materials, advice and support on sustainable development education*
- *Learning and support in sustainable development is of the highest quality*
- *Schools are making the best possible use of our natural heritage as a classroom for learning'* (SG, 2006a, 5)

Scotland's second action plan for the UNDESD (SG, 2010a, 3) 'provides a summary overview of the progress so far, and sets out what we will do over the remaining five years and beyond to help ensure that education for sustainable development is truly embedded in all areas of education throughout Scotland'. A supporting document 'UNDESD Schools' (SG, 2010b) is helpful in supplementing this section introducing the second Action Plan and perception of EfS endorsed. This section briefly outlines the approach to EfS in Scotland's second action plan (SG, 2010a) through a brief reference to: first, the understanding of progress and action areas endorsed for the UNDESD; and second, the implementation of EfS through CfE, the whole school approach, eco-schools, and partnership working; support for teachers; assessment and inspection to facilitate EfS; and a commitment to developing 'skills for work'.

The second action plan (SG, 2010a, 7) makes reference to the Sustainable Development Commission Scotland's report (SDC, 2009) which awarded 4/5 for progress in EfS, quoting the report as so: 'education is an area in which sustainability principles increasingly underpin policy in Scotland. The education sector in Scotland is becoming more sustainable in terms of its operations and underlying philosophies, though there remains room for improvement'. The Scottish Government, working in partnership with CIFAL⁶, organised a conference in January 2009 to 'celebrate the excellent progress being made across all sectors on Education for Sustainable Development and looking forward to the next five years' (SG, 2010a, 4). The second

⁶ CIFAL Scotland is part of UNITAR's network of International Training Centres, dedicated to provide innovative training to strengthen the capacities of government and civil society leaders to advance sustainable development. <http://www.cifalscotland.org/>

action plan identifies 15 action areas, outlined in appendix 5 (1), for the following five years and beyond (SG, 2010a, 15-16). The action areas include a commitment to focus on strategic support for EfS implementation within CfE; partnerships to enhance EfS delivery; support for jobs in the renewable and sustainability sectors; embed EfS within initial and continuing teacher education; and promoting EfS through school inspection and the qualification framework.

The second action plan highlights the relevance of recent reforms, CfE, to EfS: 'The new curriculum helps equip the children and young people of today with the skills, knowledge and values they will require to meet the challenges of the 21st century' and 'Sustainable development is embedded in all areas of the curriculum' (SG, 2010a, 9). The second action plan refers to the whole school approach to EfS: 'Schools are increasingly taking a whole school approach to ESD - through the curriculum, through the way their buildings and grounds are run and through the leadership, culture and ethos of the school' (SG, 2010a, 9). The second action plan refers to the eco-schools programme as an 'enormous success' and the opportunities for developing 'responsible global citizens': 'There are also excellent opportunities for active learning about sustainable development through participation in school travel plans, engaging on issues about how schools can be more sustainable and developing skills to work in the sustainable jobs of the future' (SG, 2010a, 10). The importance of partnership is emphasised: 'it is our intention to continue to work in partnership with Learning and Teaching Scotland⁷, the SDE Network, the IDEAS Forum, Eco-Schools Scotland, local authorities and others within the statutory and voluntary sector to promote sustainable development education within Curriculum for Excellence taking a joined-up approach to the delivery of this plan' (SG, 2010a, 9).

The second action plan commits to ensuring support for teachers 'in the delivery of ESD within schools, through online resources, face-to-face meetings and other CPD learning tools' (SG, 2010a, 10). The second action plan also refers to the establishment of a Sustainable Development Advisory Group to develop EfS within the Curriculum for Excellence, and the potential of Glow, 'the world's first national education intranet', 'to promote sustainable development and global citizenship' (SG, 2010a, 9). Reference is made to the '*Taking a Global Approach to Initial Teacher*

⁷ Now Education Scotland

Education' initiative and the review of teacher education initiated by the Scottish Government (see Donaldson, 2010).

The importance of recognising achievement, beyond qualifications, as an important part of CfE, is endorsed. The supplementary report (SG, 2010*b*) emphasises that pupils have the opportunity to study subjects that incorporate Sustainable Development, highlighting Geography and Managing Environmental Resources as qualifications that clearly feature EfS and the Scottish Science and Language Baccalaureates, which allow 'pupils to apply subject knowledge in realistic contexts' (SG, 2010*b*, 11). Relevant additional qualifications to EfS, or rather awards, are referred to such as Scottish Education Awards, including the Sustainable Schools Award and Global Citizenship Award, John Muir Award and the Scottish Green Awards. The Schools Global Footprint project is recognised. In terms of Outdoor Learning it is stated that: 'The Scottish Government is convinced about the benefits of learning outdoors and therefore wants sustainable and progressive opportunities for all young people to participate in a range of outdoor learning experiences' (SG, 2010*b*, 9). A commitment that EfS will be embedded in school inspection is addressed: 'there is an expectation that sustainable development education will form an important part of the evaluations arrived at during an inspection, particularly coming to a view on the quality of the curriculum' (SG, 2010*b*, 7).

Lastly, the supporting document concludes (SG, 2010*b*, 16) with reference to skills 'at the heart of CfE: skills for learning, skills for life, skills for work' and highlights the Scottish Government's commitment to ensure that 'vocational skills have parity of esteem with academic skills', including the Skills for Work qualifications. The concluding section of the report (SG, 2010*b*, 16) addresses the 'need to continue to emphasise the attractiveness of the Renewable Energy sector for school attendees and leavers' and refers to initiatives in place, including the Renewable Energy Skills Group, which would support such an aim in CfE.

In addition to the UNDESSED action plans, *Learning for Sustainability* (One Planet School Working Group, 2012), a Ministerial Advisory Report, is considered a recent important and insightful document when considering the status of EfS in Scotland. In 2011, the Scottish Government committed to exploring the concept of 'One Planet Schools', signalling an ambition to respect the Earth's carrying capacity and our global community. *Learning for Sustainability* sets out 'how Scottish education can build on its world leading status and further contribute to sustainable and socially just practices

throughout Scottish society' (One Planet School Working Group, 2012, 4). A definition of Learning for Sustainability is introduced on the Learning for Sustainability Scotland website, introduced below, in which 'the term Learning for Sustainability (LfS) has been adopted to reflect an extended concept that weaves together the three fields of Sustainable Development Education, Global Citizenship and Outdoor Learning'⁸. The report (One Planet School Working Group, 2012) identifies the way in which current policy may facilitate 'learning for sustainability'. The report highlights that the revised General Teaching Council for Scotland's Professional Standards and the changes arising from Teaching Scotland's Future result in a promising policy context for ensuring that 'learning for sustainability becomes the everyday experience of every learner in every school in every community in Scotland' (One Planet School Working Group, 2012, 11). This includes reference to the three new Professional Standards relating to Registration, Career-long Professional Learning, and Leadership and Management.

The government's response (SG, 2013a) to *Learning for Sustainability* (One Planet School Working Group, 2012) was very positive, accepting the five overarching recommendations:

1. *'All learners should have an entitlement to learning for sustainability*
2. *In line with the new GTCS Professional Standards, every practitioner, school and education leader should demonstrate learning for sustainability in their practice*
3. *Every school should have a whole school approach to learning for sustainability that is robust, demonstrable, evaluated and supported by leadership at all levels*
4. *School buildings, grounds and policies should support learning for sustainability*
5. *A strategic national approach to supporting learning for sustainability should be established'* (SG, 2013a, 4)

Scotland has recently been successful in a bid to establish a UN Centre of expertise, Learning for Sustainability Scotland: 'The centre is an open network where members and partners come together to undertake collaborative projects, research and advocacy that push forward Learning for Sustainability practice and policy in Scotland.

⁸ <http://learningforsustainabilityscotland.org/about-us/learning-for-sustainability-and-esd/>

LfS Scotland's purpose is to harness the full potential of learning to create a flourishing, sustainable world' (LfS Scotland, 2014, 1). This centre of expertise will be key to driving forward the aforementioned recommendations.

5.2c The Curriculum for Excellence (CfE)

This section attempts to provide an 'unbiased' introduction to CfE, drawing on key documents related to CfE in Table 5 (1), through: a brief introduction; acknowledgment of the key bodies at the heart of CfE; the approach to teaching endorsed, including an emphasis on partnerships; reference to EfS in the key documents; and the approach to assessment.

Brief introduction

CfE's aim 'is to produce for the first time ever, a single curriculum 3-18, supported by a simple and effective structure of assessment and qualifications' (SG, 2004, 4). The CfE endorses the four capacities as presented in Figure 5 (1).

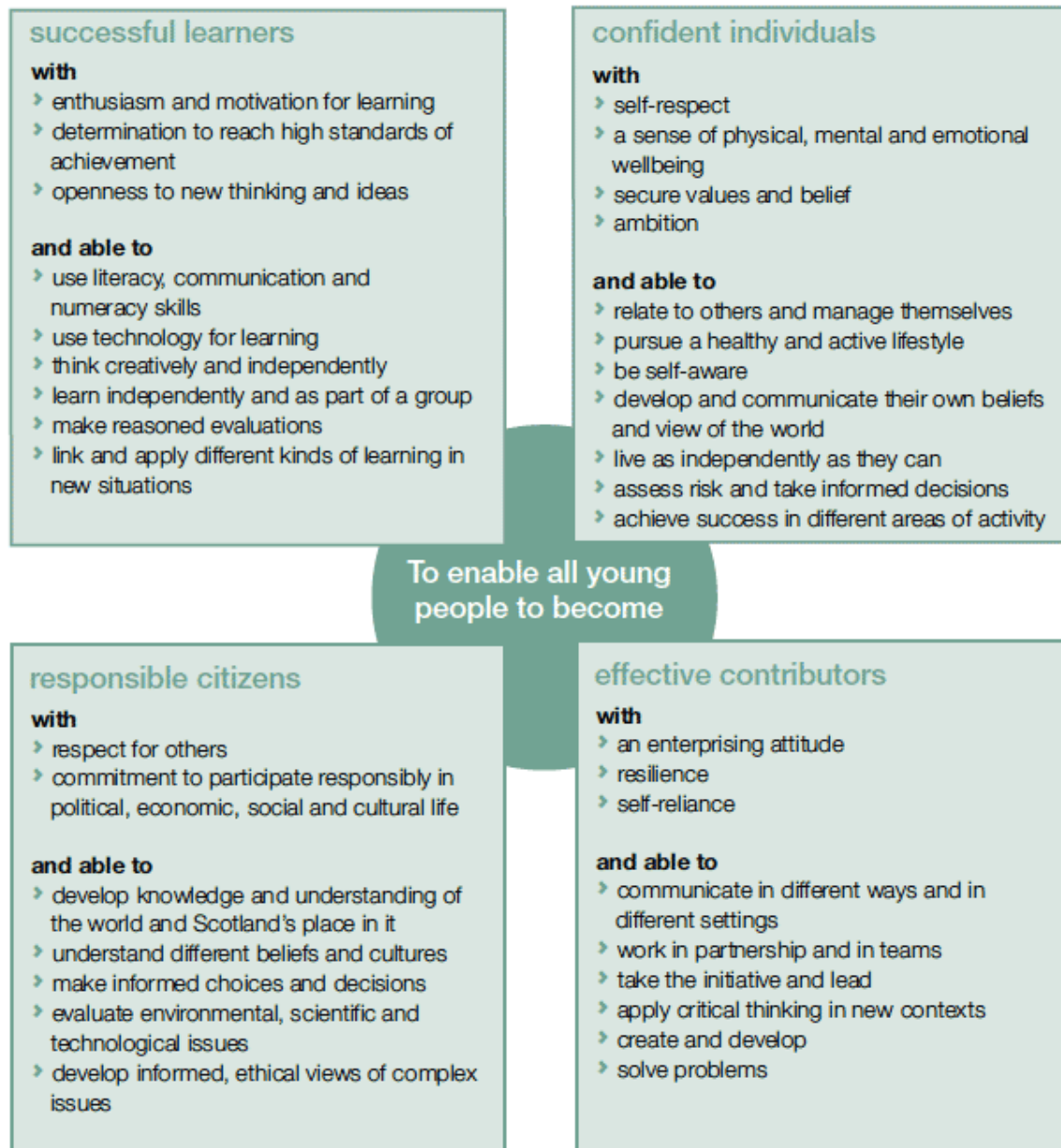


Figure 5 (1): Goals of the Curriculum for Excellence (SG, 2004, 12)

A CfE purports to ‘establish[es] clear values, purposes and principles for education’ (SG, 2004, 3) based on a commitment to develop a curriculum that ‘must be inclusive, be a stimulus for personal achievement and, through the broadening of pupil’s experiences of the world, be an encouragement towards informed and responsible citizenship’ (SG, 2004, 11). CfE has been lauded by those involved in policy as ‘one of the most ambitious programmes of educational change ever undertaken in Scotland’ (SG, 2008, 8). From 2014 onwards, National Qualifications at all levels should reflect the values, purposes and principles of CfE.

The participatory nature of formulating plans for CfE is frequently referred to,

and the timeline of the process and resultant important key documents are available on the website of Education Scotland. Experiences and Outcomes for each curriculum area were developed by writing teams of teachers and others in the field of education, including people from the Scottish Government, HM Inspectorate of Education, the Scottish Qualifications Authority, and subject networks. International, as well as local, research was drawn upon in establishing guidelines for each curriculum area. The Draft Experiences and Outcomes were published in stages for engagement and trialled by Learning and Teaching Scotland (now Education Scotland) in order to gather views for further development.

Key bodies at the heart of CfE

Learning and Teaching Scotland and HM Inspectorate of Education were merged in 2011 to form Education Scotland. Education Scotland is the national body that provides material and guidance for teachers to implement CfE. The CfE Management Board has overall responsibility for delivering the programme. The Board constitutes key organisations in Scottish education: the Scottish Government; the Association of Directors of Education in Scotland; Learning and Teaching Scotland and HM Inspectorate of Education (now Education Scotland); and the Scottish Qualifications Authority. Table 5 (5) presents key players influential in Scottish curriculum development, specifically in relation to EfS. It is important to note, there are other organisations engaged with education not referred to in Table 5 (5), including for example, Associations for the various subjects; ADES [Association of Directors in Education in Scotland]; and STTA [Scottish Secondary Teachers Association], 'Scotland's only specialist union for secondary school teachers'. Teachers are responsible for delivering and designing course material and the evaluation of EfS in schools lies with Education Scotland, as addressed below.

Table 5(5): Key players and their responsibilities in Scottish education

Organisation name	Description of responsibility
Education Scotland	<p>An executive agency with responsibility to support 'quality and improvement in Scottish Education'. Education Scotland is committed to seven strategic objectives:</p> <ol style="list-style-type: none"> 1. to lead and support successful implementation of the curriculum; 2. to build the capacity of education providers and practitioners to improve their own performance; 3. to promote high quality professional learning and leadership; 4. to stimulate creativity and innovation; 5. to provide independent evaluation on the quality of educational provision; 6. to provide evidence-based advice to inform national policy; and 7. to develop our people and improve our organisational capability (Education Scotland, 2012a, 1) <p>Her Majesty's Inspectorate of Education was merged with Learning and Teaching Scotland to form Education Scotland</p>
Learning for Sustainability Scotland	<p>'Learning for Sustainability Scotland – Scotland's United Nations Recognised Regional Centre of Expertise on Education for Sustainable Development – is a network of organisations and individuals working to harness the full potential of learning to create a flourishing, sustainable world; where communities value the natural environment; societies are inclusive, equitable and peaceful; and a vibrant economy contributes to flourishing ecosystems'</p> <p>Five areas of work comprise Learning for Sustainability Scotland's mission:</p> <ul style="list-style-type: none"> Identifying and sharing existing knowledge, expertise and lessons learned between Scotland's educators, institutions and communities Actively generating new knowledge and approaches to Learning for Sustainability through cooperative partnerships, projects, initiatives and research Monitoring, evaluating, and gap analysis of progress on Learning for Sustainability in Scotland Providing advice on LfS to practitioners, policy and decision-makers Sharing our learning internationally and providing a mechanism for members to learn from others around the world as part of the RCE Network (LfS Scotland, 2014, 2)
Local Authorities	<p>State schools are owned and operated by Local Authorities. Some Local authorities have quality improvement officers that engage with EfS to support schools with inspection, continued professional development and CfE.</p>
Teacher Training Institutes	<p>There are six teacher training institutes in Scotland. Scotland's teachers are a 'graduate' profession and the General Teaching Council for Scotland regulates professional standards. The latest suite of standards includes a commitment to ensure all trainee teachers engage with EfS as part of their training and continued professional development.</p>
Third sector and other support for schools	<p>A range of Non-Governmental Organisations produce resources.</p> <p>The Eco schools programme, is operated by the Foundation for Environmental Education and managed in Scotland by Keep Scotland Beautiful.</p> <p>The International Development Education Association of Scotland (IDEAS) is a network of organisations and individuals involved in Development Education and Education for Global Citizenship across Scotland, of which the six Development Education Centres in Scotland are members.</p>
Scottish Qualifications Authority	<p>The SQA is the national body in Scotland responsible for the development, accreditation, assessment, and certification of qualifications other than degrees.</p>
The Educational Institute of Scotland	<p>The Educational Institute of Scotland is 'the largest teaching union in Scotland'</p>

Approach to teaching endorsed and partnership working

The documents, guidance and proposals relating to CfE recognise reform, not only in the content, but also the school structure and pedagogy. There is explicit acknowledgement of the importance of involving the learner in their own learning at all stages: from ‘collaborating in planning, and shaping and reviewing their progress’; providing ‘opportunit[ies] to engage in active learning, interdisciplinary tasks and to experience learning in practical contexts in enabling all children and young people to develop, demonstrate and apply a wide range of skills’ (SG, 2009, 2). Critical literacy is considered an important skill: ‘Children and young people not only need to be able to read for information: they also need to be able to work out what trust they should place on the information and to identify when and how people are aiming to persuade or influence them’ (SG, 2009, 33). Learning is considered as ‘an *active* process’, expanding on this philosophy reference is made to ‘making notes’ as opposed to ‘taking notes’ (SG, no datea, 21).

The professionalism of teachers is highlighted in CfE and teachers are to be given more freedom to design curriculum material to suit the needs of pupils: ‘Curriculum for Excellence embodies a new way of working. It recognises that sustained and meaningful improvement should, to a significant extent, be shaped and owned by those who will put it into practice’ (HMIE, 2009, 1). As highlighted in section 5.2b, the need to engage with sustainable development is now embedded in the revised General Teaching Council for Scotland (GTCS) Professional Standards (GTC Scotland, 2013) and *Continuing to Build Excellence in Teaching* (SG, 2011), the Scottish Government’s response to *Teaching Scotland’s Future* (Donaldson, 2010). The development of skills across diverse contexts and settings is recognised, including an emphasis on interdisciplinary learning (Education Scotland, 2012b). CfE aims to provide ‘opportunities to contextualise learning by making links with the world of work and providing opportunities to place learning within a practical context’ (SG, 2009, 27). Partnerships ‘may include those with small companies, social enterprises and entrepreneurs, providing a strong link between the school and the local community, as well as larger national or international organisations’ (SG, 2009, 8). A commitment to inform parents and guardians about learners’ progress and the school’s expectations and interpretation of national standards is endorsed.

Reference to EfS in key documents

On Education Scotland's website (Education Scotland, no date^b), the ways in which 'sustainable development education' is embedded in the CfE are outlined; see Table 5 (6)

Table 5 (6): Sustainable development education in the CfE (source: Education Scotland, no date)

Aspect of CfE	Details embedding EfS in CfE
Values and capacities	the values of wisdom, justice, compassion and integrity which underpin Curriculum for Excellence reflect those of sustainable development education, as do the four capacities which are to be developed in all learners.
Themes across learning	sustainable development education and the other elements of developing global citizens are recognised as key themes to be introduced across all learning.
Experiences and outcomes	themes relating to sustainability have been embedded within the experiences and outcomes of the curriculum areas, ensuring that they form the key learning experiences of all children and young people from age 3 to 18
Approaches to learning	educators in Scotland are being encouraged to adopt approaches to learning which are active, creative, co-operative and collaborative. Outdoor learning is also seen as key. These approaches are essential for creating rich and transformative learning experiences relating to sustainability
Interdisciplinary learning	sustainable development is inherently interdisciplinary and is supported by the strong focus on interdisciplinary learning within Curriculum for Excellence.
Pedagogy	sustainability requires pedagogies which foster in learners the ability to think critically and creatively and to analyse, evaluate and synthesise complex issues and apply their learning in new contexts. Pedagogies should also encourage a systems thinking approach.

The six principles informing 'sustainable development education', as introduced in section 4.3 are 'embedded within the wider principles of developing global citizens' (Education Scotland, no date^b; see LTS, 2011). A whole school approach aims to embed 'sustainable development education into the fabric and life of the school' with a 'co-ordinated action plan' focusing on: leadership; policy and planning; relationships and ethos; buildings and grounds; curriculum; learning approaches; personal achievements; and community (Education Scotland, no date^c).

The Scottish Qualifications Authority (SQA, 2007) has produced guidelines to embed 'sustainable development in qualifications'. There is an explicit recognition that the community context will influence delivering the health and wellbeing aspect of the curriculum (Education Scotland, 2013). In *Building the Curriculum 4: Skills for learning, skills for life and skills for work* (SG, 2009, 22) there is reference to sustainable development: 'There is a range of practical context and wider opportunities within which children and young people can develop the breadth of skills. These may include: sustainable development activities including environmental and community activity and participation in the Eco Schools programme'.

The HMIE have a series of publications that focus on identifying good practice, relating existing practice to the aspirations of CfE, stimulating debate and reflection; and proposing questions to help deliver the aspirations of CfE through specific subjects. The portraits celebrate current practice that fall under the four capacities endorsed in the CfE and thus cover many issues related to EfS, see for example HMIE (2006) and HMIE (2008).

Approach to Assessment

Hayward (2007), in a paper examining Scotland's efforts to develop a coherent assessment system, referred to a three level system of school evaluation and improvement: one, self-evaluation and planning within each school; two, the local authority requirements of schools to account for the quality of their provision; and three, the HMIE inspection programme.

Education Scotland is expected to evaluate, and make recommendations for improvement for, schools' progress towards the aims set out in a CfE. The HMIE (2011), now Education Scotland, states a mission to 'contribute towards achieving the Government's overall purpose and its strategic objectives of creating a smarter, healthier, wealthier and fairer, greener and safer and stronger Scotland'. There is an emphasis on encouraging schools to 'self-evaluate' and a number of documents providing guidelines have been published. The framework of quality indicators set out in *How Good is Our School?* (HMIE, 2007) provides a focus for reflecting on professional practice for improvement in schools. *How Good is Our School?* (HMIE, 2007) provides quality indicators for inspectors to use, which includes a focus on collegiate self-evaluation and 'the extent to which the school: encourages and supports creativity and innovation and learns from, and adopts, leading-edge practice; influences wider policy or practice; anticipates and responds rapidly and flexibly to change; and engages in global issues' (HMIE, 2007,18). The 3-18 Curriculum Impact Reports for Sciences and Social Studies (Education Scotland, 2012c; Education Scotland 2012d) provide examples where inspection supports a whole school approach to EfS.

The rationale for assessment is clarified in *Building the Curriculum 5: A Framework for Assessment* (SG, 2011a), which supports the approach to teaching introduced earlier in this section. The report indicates assessment should 'meet the needs' and 'motivate' all learners': 'Learning, teaching and assessment should be

designed in ways that reflect the way different learners' progress to motivate and encourage their learning. To support this, all learners should be involved in planning and reflecting on their own learning through formative assessment, self- and peer-evaluation and personal learning planning' (SG, 2011a, 10).

This section has provided a brief overview of the policy context. The overview is expanded on through reference to critique of policy and practice below; then through reference to practice, in scoping conversations with teachers (section 6.1.2) and the insights from the pilot projects discussed in chapter seven.

Part two: A Critique of Policy and Practice

5.3 Introduction

The above section has provided an overview of the policy commitments for EfS in terms of the UNDES and CfE. This second part of chapter five takes a critical perspective of the status of EfS in terms of policy and practice under the following themes: the status of evidenced based research on EfS; progress, opportunity and a call for caution; and a critique of CfE.

In 2003 Lavery and Smyth (2003) claimed that despite the commitments, there are signs that:

‘the SDE [EfS] agenda is not politically important enough at present to withstand the pressures put on it by major political initiatives such as the standard in schools agenda or the reorganisation of local government. Sustainable development education, to politicians and senior administrators, is a worthy but minor topic, and as a result has fallen between the cracks of the big issues of the day’ (Lavery and Smyth, 2003, 378)

However, others have recently been far more positive about the status of EfS in Scotland, highlighting the extent policy facilitates EfS (Birley, 2011; ESD co-ordinating group, 2010; One Planet School Working Group, 2012; Martin, 2013). The status of EfS in Scotland is a rich field to investigate and, as is demonstrated in the following sections, a difficult area to evaluate with diversity of provision across Scotland.

This chapter focuses on the curriculum in Scotland. However, research on the UNDES highlights concerns relevant to the Scottish context, briefly acknowledged below. In contrast to the brief but positive acknowledgement of the UNDES in section 5.2a. Sauve *et al*’s (2007, 1) discussion on the UNDES focused on epistemological concerns, claiming that ‘an instrumental view of education, a resourcist conception of the environment and an economist view of development’ was endorsed. Pigozzi (2010, 266) maintains the UNDES should be better positioned in the education landscape and that more research on the partnerships between government, NGOs and civil society to implement EfS is needed. The ESD indicators advisory group (2008, 7), providing an overview of current policies and practices related to EfS in the United Kingdom, concluded that ‘awareness of the Decade itself is not widely manifested even amongst those interested and involved in ESD in comparison to those countries

such as Germany that have mounted visible campaigns promoting the Decade'. Pigozzi's (2010) concern overlaps with the conclusion of the ESD co-ordinating group (2010) that there is a lack of research on progress made related to EfS, as opposed to actions taken, as addressed in section 5.3a. However, the review (ESD co-ordinating group, 2010, 1) also highlighted that EfS 'continues to gain momentum as an important emerging field of educational policy, practice and research', despite challenges discussed in the proceeding sections. Thus part two incorporates analysis of the dominant EfS discourse during the UNDESD.

5.3a Status of evidence based research on EfS

The second review (Wals, 2012), called for a need for more research to document that EfS is quality education. This section was written with an understanding that pupils' and teachers' feedback on EfS is essential to gain an insight into the status of EfS. Thus, rather than focus on policy commitments, three key questions guided the literature search resulting in a concern over the status of evidence based research on EfS, specifically in terms of teachers' and pupils' feedback, at a secondary school level. The questions are as follows: what are the pupils' and teachers' attitudes to, and understanding of, EfS?; what strategies are currently being delivered (from a teachers' and pupils' perspective)?; and what impact are these strategies having on attitudes and actions? This section thus acknowledges, and provides an overview of, research relevant to the implementation of EfS implementation in Scottish secondary schools.

Broad overviews of the status of EfS in Scottish schools (Grant and Borradaile, 2007; Birley, 2011) focusing on practice in addition to policy were useful in the identification of themes that inform the proceeding sections. Other reports provide an account of the way in which the policy context is promising for EfS, see ESD co-ordinating Group (2010); and One Planet School Working Group (2012). The One Planet School Working Group report (2011) has been introduced in section 5.2b. *Education for Sustainable Development in the UK in 2010* (ESD co-ordinating Group, 2010) serves as an update to the UK's participation in the UNDESD 'and provides a general overview of new and continued activity in key areas in [the] UK [related to] ESD from July 2008 to April 2010', including: significant policy changes; milestones and significant events and achievements; and new research and literature (see also Martin, 2013).

The need for more research on progress in the classrooms rather than policy commitments was identified by the ESD co-ordinating group (2010), including a focus on the meaning of EfS. Corney (2006, 224-225) supports such a finding, maintaining that 'much of the literature on ESD, including the contribution of geography teachers, is based on rhetoric and exhortation, and there is a lack of empirical, classroom related studies which would provide evidence for professional development'. More recently, Sosu and Ellis' (2014, 1) research on the attainment gap in Scottish education concluded that a 'lack of data, research and evaluation evidence for schools and local authorities currently hampers progress'. The lack of evidence-based research is supported by many others. For example, McNaughton (2007, 634) claims that: 'There is a noticeable lack of teachers' voices in the current research and writing on sustainable development education in Scotland (and elsewhere)' and Priestley and Minty (2012) write there has been 'little research to date on CfE'. Research that does focus on pupils' and teachers' voices is included in section 5.3c.

Grant and Borradaile (2007, 11) also call into question the reliability and approach to EfS evaluation, reflected in the following quotes: 'Some schools are doing SDE and don't know it; others think they are doing it but aren't' and 'Many pupils undertake charitable activities, but there is less evidence of their involvement in directly considering why' (HMIe, 2006, 7). Although there is evidence of evaluating progress, in terms of assessing the impact of policy, this is very much in its early stages (ESD co-ordinating group, 2010; SDC, 2010). Many programmes do not appear to have attracted (published) independent evaluation, for example the work of the Environment and School Initiative (ENSI), referenced in the UNDES review (Wals, 2009). The most recent UNESCO review (Wals, 2012, 17) highlighted that 'the involvement of NGOs, considered key players, and youth is underreported' as a limitation of the global monitoring and evaluation process. The importance of evaluation is highlighted by research on the effectiveness of EfS programmes. For example, the WWF (2001) review of its EfS projects concluded with barriers towards delivering EfS resulting in behavioural change and concern over the eco-school programme addressed below.

The eco-schools programme has played a key role in providing grounds to celebrate progress and the position of EfS in Scotland (SDC, 2010; SG, 2010a). However, research investigating the increased opportunities in secondary schools in Scotland from pupils' and teachers' perspectives provided through eco-schools is

lacking. The latest available review of eco-schools in Scotland (Pirrie *et al*, 2006) indicated positive change, but also important limitations and challenges for EfS. Cincera and Krajhanz (2013, 117) drawing on a range of evaluations of the eco-school programme highlighted benefits in three areas: school management and status; ‘the development of selected pro-environmental competences; and the quality of the school curriculum, teacher’s competence and effectiveness of the school management. The 2006 evaluation of eco-schools was particularly revealing in terms of how the Scottish curriculum facilitates EfS initiatives, including challenges and insights into a particular approach to EfS. The eco-schools programme has opened doors for engagement with EfS, evident in the numbers of participants (Martin, 2013). The majority of eco Schools’ activity in secondary schools is carried out by small numbers of pupils in extra-curricular time or is in special schools. The 2006 evaluation also identified that secondary schools need more challenging themes. Evidence provided from pupils on teachers’ rationale for engagement with the programme is lacking. This is an important area for research as anecdotal evidence suggests it is important for teachers to be ‘living the talk’. The SDC report (2009, 39) highlights that the eco-schools programme is a valuable contribution to EfS in schools, however stresses that it cannot deliver the whole EfS agenda. For example, the programme was not designed to build leadership capacity in senior management teams or develop teaching skills appropriate for EfS. Since the 2006 evaluation the eco-schools programme has developed a four point development plan to support greater secondary involvement (2007, unpublished). The proposals of adapting, and implementing, a programme for secondary schools and the accompanying guidance for action would benefit from more research. Krnel and Naglic’s (2009, 5) research on eco-schools in Slovenia indicated that the programme improves knowledge but ‘fails to produce the desired results in terms of a more responsible way of life’. Therefore considering programmes as indicators of EfS without critical reflection does not reflect an appreciation of the aims of EfS, as was demonstrated in reports commenting on the status of EfS in Scotland and the role of eco-school programmes (SG, 2010a; SDC, 2010). Indeed such celebration of eco-schools indicates a wider lack of critical evaluation characteristic of the status of evidence-based research on EfS.

There are notable contributions to the field that have sought pupils’ and teachers’ perspectives on themes relevant to EfS, including citizenship education (see Gayford, 2009) and CfE, as drawn upon in section 5.3c. Maitles and Gilchrist (2006)

provide an interesting and inspiring case study through action research emphasising the benefits and potential of democratic learning in terms of developing caring/ thinking citizens, including the evaluation (see also Gidley and Inayatullah, 2002; Hicks and Holden, 2007; McNaughton, 2012). The portraits in the HMle series draw on concrete examples where content and pedagogy have been aligned to the capacities of the CfE, and as such relevant to EfS implementation, see for example HMle (2006) and HMle (2008).

5.3b Progress, opportunity and concerns

This section acknowledges signs of progress, highlights future potential, and then calls for caution in celebrating the status of EfS too highly. The following section expands on progress, opportunities, barriers and concerns through a critique of the CfE.

The title of the report '*A Time of Opportunity*' (Grant and Borradaile, 2007, see Buie, 2013) appropriately captures a pervasive sentiment at the time of writing in relation to EfS. The undeniably raised status of EfS, at least at a policy level, has been outlined in part one. As Grant and Borradaile (2007, 5) outline, and introduced in part one: 'This opportunity results from an amalgam of circumstances including government commitment, a root and branch revision of the school curriculum under the Curriculum for Excellence programme; the monitoring and evaluation now given to SDE, and the role of Eco Schools within Scottish education'. Birley (2011) identifies the following enablers for EfS:

- 1) Supportive features of the policy context and attitudes expressed by those consulted in the policy community
- 2) EfS retaining a holistic perspective unlike other areas of policy related to sustainable development with a narrower focus, for example climate change. The holistic perspective fits well with CfE
- 3) There are examples of excellent practice and inspirational leaders working in Scottish schools
- 4) Glow could help pupils and teachers communicate and share learning
- 5) Many find the agenda of EfS interesting and are committed to EfS. The commitment to jobs for a low carbon economy can be considered as a key driver for EfS
- 6) External agencies provide valuable resources for EfS

As detailed in section 5.2b, the government's response (SG, 2013a, 4) to *Learning for*

Sustainability (One Planet School Working Group, 2012) was very positive, accepting the five overarching recommendations, and the 31 detailed recommendations, almost all in full. The One Planet School Working Group (2011,6) states that their report 'does not ask anything of educators that is not already implied by *Curriculum for Excellence, the revised General Teaching Council for Scotland's (GTCS) Professional Standards* and *Teaching Scotland's Future*.' Similarly Martin (2013, 8) refers to the CfE as providing 'the overarching philosophical, pedagogical and practical framework and context in which ESD ought to be applied'. As already emphasised in section 5.2c, CfE has been considered an exciting opportunity for EfS (One Planet School Working Group, 2012; Martin *et al*, 2013). WWF (2009) entitled a press release 'Curriculum for excellence lives up to sustainability promise'. Grant and Borradaile (2007) highlight several processes that are challenging hierarchical structures in schools, which would benefit the status of EfS, such as the Assessment is for Learning programme, timetable management changes at a council level, and the growth in pupil councils. McNaughton (2007, 633) emphasises EfS is included in the curriculum proposals, including a commitment to a pedagogy appropriate to deliver such education: 'teachers are being given strategies to enable pupils to be more pro-active in their own learning and to engage in self-evaluation and reflection on what they can do and what the next steps in their learning will be'. There have been several curriculum audits *SDELG: early years- 16+* (SDELG, 2006) and *Eco Schools: 14–16+ national qualifications* (Eco Schools, 2007 unpublished) that emphasise how current arrangements provide opportunities that are relevant to EfS, even although the links may not be explicit (Birley, 2011). Reports in the HMle portrait series also discuss the relevance that existing practice has for the aims of the CfE, and as such EfS. For example, the modern studies portrait (HMle, 2007, 2) 'promotes discussion about the need to encourage in young people a greater sense of responsibility and independence, and the need to increase their self-confidence and ability to collaborate in achieving success' and the HMle visits to secondary schools to identify and exemplify good practice in geography, focused on EfS and citizenship (HMle, no date). The relevance of CfE for citizenship education, overlapping with EfS, is illustrated in *Education for Citizenship: A Portrait of current practice in Scottish Schools and Pre School centres* (HMle, 2006). The report highlights achievements relevant to citizenship education, and EfS, such as involving young people in decision making; developing pupils' awareness of environmental issues with reference to the eco-

schools programme; fostering links with charity fundraising and local business; and introducing cultural and sports co-ordinators (HMle, 2006). The portraits constitute a rich array of examples where pedagogy and projects engaged with aspects of EfS across a wide range of subjects, including real life learning, critical thinking, debate and reflection (see for example, HMle, no date; HMle, 2006; HMle, 2007).

However, challenges have been identified for EfS implementation both relating to the wider EfS discourse and specific concerns related to EfS implementation in Scotland. The importance of critical evaluation related to celebrating success, an example being the role eco-schools have played in EfS evaluation was emphasised in the previous section. Poeck and Vandenabeele (2012, 542) raise concerns that the dominant EfS discourse ‘translates issues of sustainable development into the traditional concept of citizenship as achievement, defining these issues as learning problems faced by individuals and reinforcing an instrumental relationship between learning, citizenship and democracy’. Thus the focus is on set competencies rather than considering how EfS can contribute to sustainable development as outlined in section 4.4 in which the focus is on the democratic spaces that pupils can develop and contribute to learning processes from their own perspective (see also Biesta, 2004; Simons and Masschelein, 2010). In relation to CfE Grant and Borradaile (2007, 43) maintain ‘There is concern that, in reducing the emphasis on content in Curriculum for Excellence programme, EfS may slip through the net unless there is a publication clearly outlining its content and principles’. Indeed this concern resonates with the following discussion focused on the critique of CfE in which concerns related to the philosophical approach to education and drivers behind the change; clarity of the policy documents; the approach to citizenship endorsed; the providers’ and teachers’ capacities; and assessment are raised and expanded on.

Various challenges have been identified for EfS implementation (Grant and Borradaile, 2007, 6): ‘These challenges include the need for clarity of definition and purpose, further resources to be made available, capacity building for teachers and students and more effective collaboration by a number of key organisations’. Grant and Borradaile, 2007 identify key action areas under the following themes: commitment; clarity; collaboration; capacity building; incentives and action accountability; and scrutiny (Grant and Borradaile, 2007). Birley’s (2011) more recent report indicates that these challenges still are present as barriers. Before an explicit focus on CfE, reference to Birley (2011), focusing on Scotland, and the ESD co-

ordinating group's report (2010), focusing on the UK, provide a broad overview of challenges associated with EfS implementation. A summary of the barriers for EfS in the school curriculum identified by Birley (2011) include:

- 1) The implementation of CfE is problematic, including concerns that it is bureaucratic and vague
- 2) Teachers feel under pressure and don't talk to each other, reducing the potential for interdisciplinary learning and sharing best practice
- 3) There is concern over partnership working between the Scottish Government, local authorities and their unions, including concerns over finance
- 4) EfS is not considered as a pressing 'must do' aspect of work in schools
- 5) Local Authorities and HMIE inspections do not necessarily raise the status of EfS through monitoring and evaluation
- 6) EfS risks being an additional topic to cover
- 7) Teachers are not all able and confident to embed EfS across the culture and curriculum
- 8) There is a lack of material of the right kind
- 9) Local authorities have made cuts to their budget, including resources for EfS
- 10) There is a lack of a whole school perspective
- 11) The challenge of raising pupils' awareness if the values are not evident at home or in school buildings, such as for example energy efficiency

The ESD co-ordinating group's (2010) report concludes with challenges for implementing EfS and areas that could benefit from more research, relevant points for the secondary school sector are acknowledged below, resonating with the issues acknowledged in the academic debate in section 4.4. The need for more research into progress rather than aspirations for EfS has already been acknowledged in section 5.3a.

The ESD co-ordinating group (2010) highlights confusion over EfS in terms of developing a common understanding of what constitutes EfS and its ability to promote learning. The ESD co-ordinating group (2010) identifies the tensions between campaigning/activism/awareness-raising/behavioural change (strongly encouraged by government) and more open-ended (and open-minded) learning. The example of the Copenhagen conference, in the aforementioned report, provides a focal point to

discuss the extent climate change is driving EfS with a focus on activism and campaigning versus considering the form and appropriate pedagogy for EfS. Thus the ESD co-ordinating group's report (2010) problematise Birley's (2011) positive view about the holistic nature of EfS, through emphasising the focus on climate change. The media influence is identified as needing additional research, as influential in the worldviews of pupils and teachers. The report identifies the increasing public scepticism about climate change and how this may influence other 'sustainability issues' and refers to:

'the twin need to resist the validation of climate change education (or some such) that might act as a rival, and narrowing, focus to ESD, whilst seeking to ensure that where climate change is a learning focus (within formal programmes of study, for example), its purpose is to help learners gain plural perspectives on the scientific issues, appreciate their possible implications, and think about what their own intellectual and practical responses might be' (ESD co-ordinating group, 2010, 3).

Connecting sectors was a key area identified as providing potential for improving the quality of EfS and addressing the tension between campaigning and learning. The report identifies a lack of connection between learning experiences in the formal education sector, potential learning from community involvement, and third sector capacity building. This is supported by Martin (2013, 8) who refers to the 'clear tension between the valuable role of the third sector and core mainstream provision'. The report (ESD co-ordinating group, 2010, 4) states that there is 'a tendency to see change focused around what individuals and families can do, ignoring the many issues and decisions that are only amenable to more concerted social action. Developing social action skills through real-life contexts is a tangible example of where connections between sectors is indispensable'. In terms of engaging teachers with EfS the report (ESD co-ordinating group, 2010, 45) maintains that 'there is little indication of much activity in the *mainstream* programmes that focus on the professional development of teachers'. However, it is important to acknowledge that in the five years since the report was produced there have been changes to teacher training and continued professional development in Scotland.

The themes raised in this section related to both progress and challenges inform a sensitivity to issues relevant to EfS in the critique of the CfE, with specific focus on areas for improvement.

5.3c Critique of Curriculum for Excellence

This section now turns to an explicit focus on CfE and engages with epistemological concerns through considering critiques of CfE policy documents. The response to CfE policy has been varied. Lennon (2008, 385) maintains 'With Curriculum for Excellence, there is the very real prospect that we are entering a new era of participation and involvement for schools'. However, the former chief inspector of schools, Chris Woodhead has referred to CfE as a 'curriculum for ignorance'; 'anti-intellectual'; 'hopelessly utopian'; and claims the outcomes are vague, maintains it will lower standards and declared if he was a parent he would write to his MSP 'to ask how much it cost to produce this rubbish' (The Times, 2009). With such conflicting views, this section gives an insight into current academic engagement with CfE policy under the following overlapping themes: the philosophical approach to education, values endorsed and clarity of reform; the approach to EfS focused on citizenship and partnership working; the providers' and teachers' capacities; and assessment and evaluation. The discussion on key themes arising from current engagement with CfE policy is continued in chapter seven, drawing on practice, academia and policy.

The philosophical approach to education, values endorsed and clarity of reform

Biesta (2008) raises the concern over the lack of an explicit reference to the philosophical and empirical literature in key documents for CfE. Similarly Priestley and Humes (2010, 354) maintain 'there is hardly any mention of the big philosophical and sociological matters', fundamental to curriculum development, as discussed in chapter four: 'What is absent from A Curriculum for Excellence invites comment. There is very little sense of the contested nature of the curriculum, the fact that it often serves as an arena in which conflicting views of the social function of schooling are expressed' (358). The absence of sufficient contextualisation has been criticised. Gillies (2004, 24) maintains that despite the curriculum values (justice, compassion, wisdom and integrity) being worthy 'the absence of a cohesive rationale for changing the curriculum inevitably means that they will play a minor role in what eventually happens in schools'. Whether or not the aspiration to develop 'confident young people' refers to confidence contributing to a lower carbon economy and a society based on the concepts of wisdom, justice, compassion and integrity is unclear. However, Biesta (2008, 42) considers that the '*Curriculum for Excellence* is explicit and upfront about the values which should inform education'. Questioning the 'drivers for change' behind the reform

is fundamental to understand what is meant by the ubiquitous mantra of preparing for change. According to the Scottish government the following priority areas emerged from the 'National Debate'; see Box 5 (1). The 'National Debate' was a consultation in Scotland about the future of school education in 2002 that lasted three months, as overviewed elsewhere (Munn *et al*, 2004).

Box 5 (1): Priority areas that emerged from the National Debate that led to curriculum reform (source: SG, 2004, 7)

1. reduce over-crowding in the curriculum and make learning more enjoyable
2. better connect the various stages of the curriculum from 3 to 18
3. achieve a better balance between 'academic' and 'vocational' subjects and include a wider range of experiences
4. equip young people with the skills they will need in tomorrow's workforce
5. make sure that assessment and certification support learning
6. allow more choice to meet the needs of individual young people

Gillies (2004, 31) has criticised a failure to clarify the 'drivers for change' and identifies implicit values, that remain as 'givens', as the need to increase economic performance and the acceptance of changing patterns and demands of employment. Indeed, the reasons for curriculum change stated in the *The Curriculum Review Group* (SG, 2004) fail to clearly indicate that addressing unsustainable development is the priority:

'we face new influences which mean that we must look differently at the curriculum. These include global social, political and economic changes, and the particular challenges facing Scotland: the need to increase economic performance of the nation; reflect its growing diversity; improve health; and reduce poverty. In addition we can expect more changes in the patterns and demands of employment, and the likelihood of new and quite different jobs during an individuals' working life' (SG, 2004, 4).

Thus the absence of global environmental challenges, as referred to in chapter two, and the place given to economic performance is noteworthy in the key policy documents for CfE (SG, 2004; SG, 2006b; SG, 2008; SG, 2009; SG, 2011a). The failure to acknowledge the UNDES in recent documents raise doubt that sustainable development informs the purpose of education in the 21st century, as called for in the previous chapters. However, other documents contextualise education, and the CfE, with reference to the need for sustainable development:

'The big issues affecting our planet, such as climate change and global poverty, require an innovative generation that knows how to find solutions. Our democratic societies need creative people who recognise the importance and value of participation and making their voices heard. The injustice and

inequalities in society require people who care about human rights and who recognise that our lives are linked together in our increasingly interdependent and globalised world...This is why developing global citizens is a key learning context within Curriculum for Excellence and why it is firmly embedded within the experiences and outcomes across all eight curriculum areas.' (LTS, 2011)

The potential of the CfE to engage with EfS has been acknowledged in section 5.2*b*, in which reference is made to those who regard CfE in a more positive light: as an opportunity to create space for valuing a more holistic education: one that focuses less on exams and more on critical thinking and fostering a desire to learn; and building confidence and developing the skills to contribute to a sustainable future (WWF, 2009; One Planet School Working Group, 2012).

Many indicate the reforms are to be celebrated due to the control given to teachers to develop a flexible curriculum suited to the needs of the pupils. However, CfE has led to criticism over clarity of what should be delivered in schools and what exactly will change. McNaughton (2007) highlights the necessity to view the policy documents on EfS with other key documents warning of potential clashes of epistemological understanding of the role of schools, through referring to the mismatch between the emphasis on unification of the curriculum, width and depth of pupil experiences and an emphasis on assessment and examination. The clarity, and level of guidance, suitable for curriculum reform has attracted divergent views, as demonstrated in Priestly *et al's* (2014) research into school based curriculum development in response to CfE. Indeed, Priestly *et al* (2014) maintain that 'the enactment of CfE is largely dependent upon the capacity to develop the curriculum at a school level, and that this is often limited. Part of the issue lies in the lack of clarity in the big ideas of the curriculum'. Concerns over the generality of CfE documents in providing the foundations for change, is returned to under the providers' and teachers' capacities. As McNaughton (2007, 633) warns: 'This lack of precision does not bode well for sustainable development education. There is concern that the result might be a model of didactic values education rather than a more open-ended learner-centred approach'. This is supported by Carr *et al* (2006, 13) who criticised the generality of the documents, explaining 'interesting practical disagreement cannot really arise, the difficulty of civilised dissent from the overall tone and drift of the document could also seem something of a shortcoming'.

The philosophical approach to education, values endorsed in CfE policy and

clarity suitable for curriculum reform is expanded on in the following sections, and will be reflected upon after immersion in practice in chapter seven.

The approach to EfS focused on citizenship and partnership working

This section continues the discussion on the philosophical approach to education in CfE through addressing the approach to citizenship, partnership working and enterprise education endorsed as integral to EfS. The discussion draws on Biesta's (2008) examination of citizenship in CfE. The incorporation of EfS and opportunities provided for citizenship education relies heavily on the Eco-schools scheme, already discussed in section 5.3a.

In Biesta's (2008, 47) discussion over the approach to citizenship endorsed in CfE, reference is made to Westheimer and Kahne's (2004) framework for citizenship. Westheimer and Kahne (2004) articulate three concepts of citizenship based on different theoretical and curricular goals which are useful in analysing the approach to citizenship in the Scottish school system: 'the personally responsible citizen'; 'the participatory citizen'; and the 'justice-oriented citizen'. A key document, *Education for Citizenship* (LTS, 2002), has been considered as influencing the understanding of citizenship within *Curriculum for Excellence* (Biesta, 2008, 39). The 2002 document appears to recognise the importance of all elements claiming that 'young people learn most about citizenship by being active citizens' (LTS, 2002, 3). Based on such an understanding the approach to citizenship education proposed in the document does not necessitate an 'additional subject' but is a cross- curriculum theme. The HMle, predecessor to Education Scotland, is important as citizenship in Scotland is not assessed as it is in England as a subject but reliant on HMle/Education Scotland's opinion. An acknowledgement of inspection and assessment related to EfS is returned to at the end of this section. Obviously, citizenship education raises crucial questions about the meaning of, and opportunities to become, 'thoughtful and responsible participation in political, economic, social and cultural life' (LTS, 2002, 11). The need to engage with structural changes has already been emphasised in chapter two. Biesta (2008) argues that in CfE policy documents the focus is predominantly on the personally responsible citizen, which lacks an explicit democratic or political dimension. Similarly Andrews and Mycock (2007) refer to a diluted political dimension for pupils who do not take modern studies. The HMle portraits indicate an approach to citizenship that focuses on the democratic and political dimension. For example, the

modern studies portrait (HMle, 2007, 5-6) states that ‘many learners develop an understanding of political citizenship by participating in mock elections and through discussing and debating political issues with a range of outside speakers from political parties, pressure groups and local authority services’ and ‘teachers also recognise the need to proactively encourage [students] to use their knowledge in real- life situations’. Andrews and Mycock’s (2007) concern resonates with Poeck and Vandenabeele’s (2012) discussion on learning from sustainable development and democracy, arguing for a shift in focus from competencies that citizens should acquire to an engagement with the democratic nature of educational practices in the ‘citizenship-as-practice’ perspective.

Partnership working, endorsed in *Building the Curriculum 3: A framework for learning and teaching* (SG, 2008) links to the concern raised by Biesta (2008) in questioning what form of ‘active citizenship’ is appropriate to inform school practice. Partnerships with providers of outdoor education have proven to offer a rich learning experience for pupils (Murray, 2003; Amos and Reiss, 2006). The nature of partnership working, whether or not focused on becoming equipped to work in the current society or orientated towards creating a greener, more sustainable society, is questionable. As documented in the following chapter, the potential for partnerships that could potentially lead to employment to enhance our concept of EfS was raised. Contextualising education in light of the current employability situation (BBC, 2014) emphasises the challenge of effective delivery of a wider, and ultimately, purposeful, conception of EfS potentially creating partnerships that would lead to employment. As acknowledged in the second pilot project write-up, a concern with the vocational role of school to enhance EfS was raised. Employment is a fundamental aspect of EfS in determining whether or not values may inform future directions. There have been various commitments to developing ‘green jobs’ (SG, 2010c; SG, 2010d), and a particularly visionary report by Campaign Against Climate Change (2010) that outlines the potential opportunities for jobs through creating a low carbon economy. However, a discussion over the potential opportunities in this ‘sector’, including partnerships linked to ‘green jobs’, is outwith the scope of this research. Fagan (2007, 6) suggests that business should ‘take more responsibility for supporting educational initiatives’. Elsewhere, concerns over the role of education and influence of business has been highlighted (Mansell, 2012) and relates to the question on the role of education, as addressed in the previous chapter, in terms of the focus on reinforcing the *status quo*

and encouraging critique. Fagan (2007) also highlights the change in emphasis of developing 'skills for work' to developing 'skills for becoming an enterprising person' in *Determined to Success: a review of enterprise in education* (SE, 2002). However, this does not include social entrepreneurship. Fagan (2007, 4) addresses enterprise education in Scotland, emphasising the lack of 'explore[ing] attitudes to issues relating to education for work and its place in the curriculum, or indeed larger questions about teachers' and policy makers' understanding of the meaning of work in our society and in the future'. However, an action area identified in Scotland's action plan for the second half of the UNDESD (SG, 2010a) is to support young people to develop skills for 'jobs in renewables and sustainability' through working with Skills Development Scotland, Scottish Renewables and other partners.

The approach to citizenship in terms of the focus on individual change and structural change is reflected on at the end of the pilot project write-ups, and issues relating to cross curriculum delivery discussed in the final chapter.

The providers' and teachers' capacities

Recognising the debate over clarity of the reforms, this section addresses issues raised concerning the capacities of those responsible for the delivery of EfS through CfE: teachers' engagement with CfE; teacher training and support; the concept of EfS endorsed in the curriculum; and the role of local authorities.

Priestley *et al* (2014, 189-190) refer to 'the significant shift, at least in terms of policy rhetoric', from 'decades of policies that worked to de-professionalise teachers by imposing prescriptive curricula' to an understanding of the role of teachers as 'agents of change'. Research on teachers' views on CfE indicates confusion, despite significant levels of engagement (Baumfield *et al*, 2010; Priestley and Minty, 2012; Priestley *et al*, 2012a; Priestley *et al*, 2012b; Priestley *et al*, 2014). Priestley and Minty (2012) explored teachers' views on CfE and highlight practical issues for implementing policy aspirations identified by teachers, including: a lack of clarity and coherence in CfE document; funding and resource issues; teacher workload and morale; a lack of confidence in taking CfE forward both related to their abilities and the benefits it would bring to their students; much valued but limited opportunities for CPD and collaborative working; the importance of strong leadership and departmental support for CfE, including the need for local authorities to support head teachers; and school factors, such as the extent that horizontal structures facilitated teacher dialogue. Researchers

(Hulme *et al*, 2009; Priestley and Minty, 2012; Priestley *et al*, 2014) who have worked with teachers indicate that there is a lack of confidence teaching values and that teachers lack sufficient time to reflect on practice and develop CfE for delivery. Hulme *et al* (2009) outline themes that emerged during consultation over CfE with practising teachers, highlighting many teachers are feeling unsure of the new approach to teaching endorsed in CfE. The challenges of cross-curriculum themes, making links between subjects, and using real-life contexts for learning in secondary school have been identified (Grant and Borradaile, 2007; Birley, 2011). Accreditation and national qualifications have also been considered as barriers for EfS. However, the impact of CfE proposals on whether or not the changes to assessment will facilitate EfS from a teachers' perspective is an under researched area in a Scottish context, discussed below Priestley and Minty's (2012) research distinguished between two levels of engagement: first order (concerned with the philosophy and ideas behind CfE) and second order (concerned with how 'CfE fits with teachers' implicit theories of knowledge and learning'). Indeed, the extent of first order engagement was more promising than second order engagement which highlights 'a risk that eventual implementation in many schools will not represent the sorts of transformational change envisaged by the architects of the new curriculum' (Priestley and Minty, 2012, 9).

NcNaughton (2007, 633) highlighted 'A key barrier to progress in the achievement of more critical, action-based teaching and learning is the lack of provision of systematic and sustained in-service education'. Criticism of initial teacher education has raised concerns (see Grant and Borradaile, 2007). However, due to recent policy changes all teachers should cover EfS in continued professional development and initial teacher training (SG, 2011*b*; GTC Scotland, 2013), as acknowledged in section 5.2*b*. However, the absence of research pertaining to teachers' understanding of EfS, including how their subject contributes to EfS is worrying as highlighted at the start of this section. There is also disagreement over the level of support available to teachers to engage with EfS, including concerns over the way in which the third sector and core mainstream provision deliver EfS as highlighted in section 5.3*b*. There is a host of organisations offering guidance for incorporating EfS into the curriculum and producing material associated with EfS, for example Oxfam, Amnesty International and Compassion in World Farming. Grant and Borradaile (2007) maintained secondary schools have less support than primary schools from such external providers of EfS. Rauch (2002, 45) supports such a call

emphasising that: ‘teachers need greater willingness and ability to handle learning processes which are not *a priori* structured’ (see also Priestley and Minty, 2012; Priestley *et al*, 2014).

Concern over the need for evaluated models of EfS, guided by clear theoretical underpinnings was highlighted in previous sections related to critique of CfE and in section 5.3a on the status of evidence based research. Despite reluctance for eco-schools to be considered as the only EfS programme, evidence suggested that ‘there is a widespread view that EfS is a new name for environmental education and/or that Eco Schools ‘does the job’. Many were unaware of the principles of EfS’ (Grant and Borradaile, 2007, 11). Birley’s (2011, 8) research points to a ‘clear consensus’ that there are ‘pockets of excellence, with some committed teachers’, but that EfS is not mainstream. This is supported by the ESD co-ordination group’s review (2010, 3) indicating very different understandings of EfS and hence the inconsistency of learning experiences for *pupils*: ‘it is hard to escape the conclusion that not everyone engaged in ESD is committed to the notion that learners need to be helped to come to their own understandings, values and commitments to action’.

The role of local authorities in the interpretation of CfE and providing space for EfS should be acknowledged, including financial cuts (Priestley *et al*, 2014). Grant and Borradaile (2007) highlight that several local authorities have adopted strategies that have influenced the schools’ engagement with EfS. Several local authorities allocate responsibility to a quality improvement officer for EfS. Given the influence local authorities have on the direction of the school and priority given to specific projects and initiatives, research on local authorities’ understanding of and attitudes towards EfS is under developed. Grant and Borradaile (2007, 48) maintain that ‘Despite obvious council support for sustainable development, SDE is not as high a priority in secondary schools as desired’. More recently, Priestley *et al* (2014, 206) research identified ‘considerable hostility from many teachers towards both national and local authority policy’. Supporting McNaughton (2007), who highlighted clashes of epistemological understanding, Minty and Priestley (2012) highlighted tensions between local authority numeracy policy and literacy and the CfE (see also Cowie *et al*, 2007).

The themes arising from the pilot projects related to teachers’ capacities to develop and implement EfS are discussed in chapter seven.

Assessment and evaluation

This section recognises the importance of assessment in influencing the learning and teaching in schools and the challenges emerging from the approach to assessment endorsed in CfE. Concern over assessment for EfS was introduced as a controversial issue in section 4.4. There is debate in academia over the appropriateness of assessing education that focuses on critical thinking and engagement with values, as highlighted in chapter four. Woolfson *et al* (2009) questions whether or not schools should assess the four capacities, emphasising both the difficulty of assessing learning with subjective outcomes but the tendency for learning not to be taken seriously without assessment (de la Harpe and Radloff, 2000). A different approach to assessment, as identified in section 5.2c, is a key feature of the curriculum reforms, requiring a ‘substantial change in the mindset of teachers’ for implementation (Priestley and Minty, 2013, 49). There has been praise that this new approach to assessment will offer opportunities for reflective learning (Grant and Borradaile, 2007). Reference to assessment as addressed in section 5.2c, including the HMle portrait series, indicates that assessment and school inspection focuses on areas that potentially facilitate EfS delivery, and an alignment between CfE ideology and the requirements for evaluating school performance. However, Priestley and Minty (2012) described the ‘greatest tensions’ encountered during discussions with teachers on CfE related to the area of assessment, where teachers expressed confusion and anxiety; others an engagement with new forms of assessment; and other teachers a difficulty in moving away from prescription to teacher autonomy and still reporting against outcomes. Significant tensions which arise from assessment in relation to CfE, and relevant to EfS, are discussed by Hayward (2007), including the desire for social justice and replicating social structures; innovation and taking a risk; and issues of validity and dependability; sharing standards; and recognising achievement more broadly. Hayward *et al* (2008, 4) discusses the tensions between assessment for formative and summative purposes, including teachers’ aims ‘to give pupils more responsibility for their learning, to promote deep understanding, to enable pupils to apply principles to new situations, in fact, to empower pupils as learners’. Amongst the recommendations, Hayward *et al* (2008) called for case studies to explore how assessment could meet the requirements of the SQA and the aspirations of CfE. A concern was raised by Reeves (2008) in discussing the extent CfE would lead to reform considering the requirements for evaluating school performance: ‘most of these

changes are cosmetic since the basic instruments and methodology for securing quality remains the same...Caught between two theories of improvement, with the contradictory ideology firmly in the saddle, the prognosis for the implementation of CfE does not look particularly rosy' (Reeves, 2008, 13). The insights relevant to assessment emerging through the pilot projects, including the alleged contradictory ideology, will be returned to in the concluding chapter.

5.4 Chapter summary

This chapter has addressed the status of EfS in the Scottish secondary school curriculum in two parts: the policy context, drawing on first hand reference to policy documents; and a critique of policy and practice, drawing on independent reviews and discussion papers relevant to the status of EfS policy and practice. The logic of this chapter was informed by key themes to commence discussion of the way in which policy facilitates EfS. Further analysis of policy in relation to the thinking modes, presented in chapter four, and practice, presented in chapter six, is returned to in chapter seven. This chapter serves as invaluable preparation to highlight the potential value, and inform the framing of, the pilot projects. First, in terms of the UNDESD which has led to raising the status of, and research on, EfS and debate over the challenges and opportunities of implementation. The Scottish response to the UNDESD was introduced, in which: EfS is considered to be embedded in CfE; EfS delivery is regarded as a responsibility across the school rather than in one subject; the eco-school programme is celebrated; and support for the delivery of EfS in the classroom and through partnership working is endorsed. Second, in terms of CfE that focuses on enabling all young people to become successful learners, confident individuals, responsible citizens and effective contributors. Key aspects of CfE that could potentially facilitate EfS are introduced, including: the approach to teaching endorsed that values reflection on the objectives of teaching and learning; a commitment to partnership working; reference to EfS in the key documents; an approach to assessment to facilitate learning which focuses on the aims set out in a CfE.

Part two of this chapter highlights that the extent to which policy is facilitating EfS, as endorsed in the previous chapter, is ambiguous. Clarity that the concept of EfS dominant in current policy and practice encapsulates all four thinking modes endorsed in chapter four (system thinking, future thinking, an emphasis on values and

priorities and action competency) is unclear. The policy context is potentially promising. As acknowledged, there is reference to the importance of systems thinking: in terms of a strong focus on interdisciplinary learning; a commitment to facilitate learners to apply learning in new contexts and think critically; and an acknowledgement that we are living in an interdependent and globalised world. In terms of future thinking, there is a focus on pupils planning their own learning in order to 'develop and communicate their own beliefs and view of the world' (SG, 2004, 12). An explicit emphasis on pupils engaging with their fears, hopes and alternative ideas for their collective future is, however, lacking. An emphasis on values and priorities could potentially pervade the curriculum, as key to the four capacities presented in Figure 5 (1). For example, demonstrated in the commitment to enable learners to 'evaluate environmental, scientific and technological issues' and 'develop informed, ethical views of complex issues' (SG, 2004,12). The above discussion has indicated concerns over action competency in the EfS discourse in terms of the focus on individual change and structural change. However, explicit in the four key capacities is a commitment to empower pupils in terms of becoming successful learners, confident individuals, responsible citizens and effective contributors. The overall approach to learning provides a promising policy context to develop the thinking modes in terms of endorsing pupil led learning and assessment that will potentially facilitate reflection, resonating with the approach to education as outlined in chapter four.

This chapter has highlighted the need for more evidence-based research on EfS implementation in schools, including teachers' and pupils' attitudes to, and understanding of, EfS; and evaluation of EfS initiatives currently being delivered. Despite the importance of celebrating progress of, and opportunities for, EfS implementation arising from the policy context, there is a need for caution when considering the quality of EfS being delivered. The critique of CfE raises concerns that engagement with the sustainable development discourse, as discussed in chapter two, and education philosophy, discussed in chapter four, is sufficiently adequate in the key policy documents of CfE to promote radical reform. There is debate over the extent to which the values of CfE are explicit and therefore promising for EfS, the driving values emerging after the national debate do not refer to sustainable development. In addition to concerns over whether or not the policy documents provide the theory for radical educational engagement with sustainable development, critiques also highlight

practical barriers. The consistency and clarity of change is considered both a philosophical and practical barrier for EfS. As discussed, the capacities of teachers to deliver EfS raises concerns over piecemeal and inconsistent delivery and the need for more research. The concluding section reflects on the challenges and opportunities of assessment for EfS and provisions for assessment in CfE.

Reflections on the status of EfS in the school curriculum and the very different learning experiences constituting the pilot projects, despite similar theoretical underpinnings, are included at the end of each pilot project write up in the following chapter. Themes arising in this chapter are returned to in the discussion in chapter seven, aiming to contextualise the lessons learnt during the pilot project with broader policy commitments and critique and make recommendations for improving EfS implementation.

Chapter Six

Preparation, Piloting and Evaluating

6.1.1 Introduction

This research is fuelled on a vision of education as enabling people to engage in critical discourse and shape society, in a manner that: considers the meaning of a wiser future; the consequences of actions across time and space; and the values and priorities that would guide sustainable development. A vision of education as a way of engaging people in sustainable development necessitates practice in the classroom. This chapter addresses the form of the pilot projects developed through practice, based on the theory of EfS and action research as discussed in the previous chapters. The chapter is split into three parts: part one, the conceptual framework and conversations with secondary school teachers; part two, the first pilot project; and part three, the second pilot project. Thus this chapter discusses the research journey in the 'real world': the development and documentation on the pilot projects and a brief account of how I perceive the findings, informed by the ideological and theoretical starting point as discussed in previous chapters; see Figure 6.1 (1). My role in the write up, in this chapter, is presenting the data with a brief commentary on interpretation. The significance of theory in the classroom, including the concepts of design and utopianism and the four thinking modes endorsed in chapter four, are returned to in the following and concluding chapter.

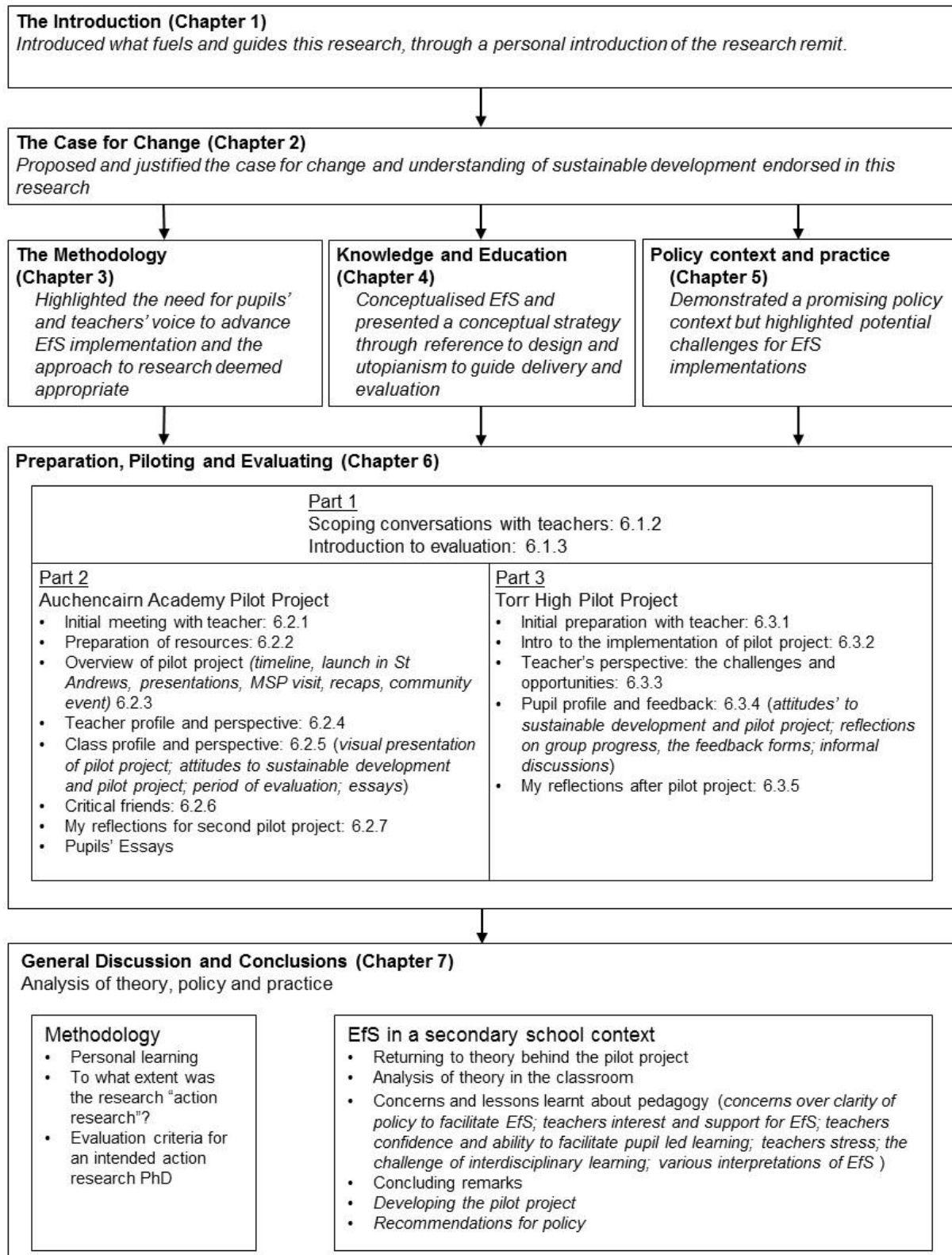


Figure 6.1 (1): Chapter contents within the context of the thesis

As embraced in the methodology chapter, Punch (1986) calls for a 'muddy boots and grubby hands' account of the research: 'More deeply than in a sheer 'methods' account, we should see how key concepts emerged over time; which variables

appeared and disappeared; which codes led into important insights' (Punch, 2009, 338). Thus, this chapter is long in comparison with other chapters, as I am sharing an in-depth account of practice: drawing on my perspective on the pilot projects; attempting to represent the views of pupils and teachers, and the challenges of doing this; and my reflections on the appropriateness of data to adequately and authentically portray the pilot projects. I present this chapter in parts rather than divide the material into different chapters because the empirical research was interlinked and formed a cohesive whole. Themes are discussed under the data collection methods relevant to how the pupils, teachers and I perceived the pilot projects and key challenges and opportunities arising. This is a revised structure from the original plan to identify key themes to structure sections. The pilot projects led to a growing concern over appropriate evaluation and therefore the revised structure enables a more authentic portrayal of 'findings' and facilitates reflection on whether or not the evaluation was appropriate. The presentation of the pilot projects led to discussions over the inclusion of raw data and the location of my analysis. A cognitive separation of "our research" and "my thesis" was acknowledged in considering issues relevant to the write up of the thesis, section 3.3. This is relevant to this chapter in which the main focus is immersion in practice and the documentation of the pilot projects. The incorporation of my reflections is firmly rooted in practice. My perspective is expanded upon in chapter seven through locating practice with EfS theory, EfS policy and action research. The presentation of this chapter reflects the extent to which practical and academic knowledge is considered to have equal value and, although I was responsible for the write up, it attempts to authentically portray 'our research'. The lessons learnt relevant to the implementation of EfS in Scottish secondary schools, and the experience of action research in a post graduate context, are discussed in the following chapter in which theory and practice are re-united.

Reference to the appendices are made throughout this chapter. Material was allocated to the appendices to ensure the focus of this chapter is providing an overview of what happened during the pilot projects. Thus detail relating to the questions in the reflective workbooks; the overview of pupils' attitudes to the pilot project; and facilitators' feedback is in the appendices. The material was considered important to include in the thesis, but not in the main text. The appendices enable a more complete picture of the research process without detracting from the main findings and subsequent analysis. They include details of my research design and reflection, my

initial questions to guide research; and evidence informing my presentation for the class profile, as referred to in the main text. Thus the inclusion of the 'practical material' in the thesis/ appendices is in keeping with the methodological approach, reflecting the value attributed to the practical knowledge generation in the form of classroom resources and worksheets, presented to be used or tailored for teachers interested in a similar project, and the detailed documentation of practice. The direct quotes from pupils give an insight into the level of reflection arising from the specific projects. The decision to put quotes and raw data in the main text as opposed to the appendices conveys my desire to respect the pupils' voices; share the authentic 'data gathering' process; and expectations, resulting from the task in terms of the level of reflection demonstrated. This chapter also details ideas and preparation for the pilot projects that were not used or developed as equally important aspects to document the pilot projects. The significance in terms of the insights into teacher capacity, pupil abilities and time constraints is drawn upon in the concluding chapter.

The socio-economic backgrounds of the two pilot project schools, Auchencairn Academy (pilot project one) and Torr High (pilot project two), were very different. Scottish schools online provides data on exam results, free school meals, attendance and absence, and the percentage of pupils from low income families that are entitled to free school meals. The different socio-economic backgrounds of the schools are highlighted through comparisons with the national average. For example, Torr High had a higher rate of unauthorised absences; and only 8.5% of pupils were registered for free school meals at Auchencairn Academy compared to 22.7% at Torr High. Differences in academic achievement were notable with Auchencairn Academy's exam results consistently (over the last three years) higher than the Scottish average and Torr High consistently (over the last three years) lower than the Scottish average.

Pseudonyms have been used for schools, pupils and teachers. This was to protect the identity of the school; to protect the identity of the pupils most of whom were under 16; and due to my role in the write up of the final thesis. I hope that if there are other research outputs resulting from the pilot projects the teachers may wish to be acknowledged. In section 6.2.5c there are a couple of exceptions in which a name is not provided due my reluctance to apply an incorrect pseudonym and my error in not adequately labelling all conversations and the time lapse between the initial write up and the final write up that resulted in my no longer being able to identify pupils from the recordings. Rather than re-write the section without pseudonyms I wish to

acknowledge my mistake. The ethical approval for this research is included in appendix 6.1 (1).

The final chapter seven provides an analysis of the pilot projects conducted in light of the literature, research framings and engagement with current policy, as discussed in previous chapters. The subsequent chapter thus critically analyses the contribution of theory to practice and practice to theory. It reflects on the methodological approach as discussed in chapter three; and the conceptual framework of EfS as discussed in chapter four; and the opportunities, challenges and lessons learnt about EfS implementation relevant to the current policy context, as discussed in chapter five.

Part One: Scoping Stage

6.1.2 The conceptual framework

This section presents the conceptual framework that I developed and proposed to inform the delivery of the pilot projects, based on design and utopianism as potentially useful components to both deliver and evaluate EfS as discussed in chapter four. This conceptual framework was discussed during the scoping conversations, referred to in the following section. The thinking modes, falling under the remit of design thinking and utopianism as discussed in section 4.5, act as a conceptual framework for development and, as such, the starting point for the proposed pilot project. Table 6.1 (1) recaps on the relevance of the thinking modes to the aims of the proposed strategy for EfS.

Table 6.1 (1): Relevance of Design thinking and Utopianism for EfS

Aspects of design thinking and utopianism	Aims of proposed strategy for EfS
Systems thinking	Foster an understanding of the interconnectedness of the world, synergies and feedbacks, and available resources Make education relevant by bridging the gaps between -theory and practice -subjects
Future thinking	Form opinions of right livelihood considering the need for sustainable development. Engage pupils with the development of a better society and ownership of the future
An emphasis on values and priorities	Encourage a consideration of the consequences of decisions Create an opportunity to reflect on values and critically evaluate which values should underpin visions of the future
Action competency	Create a dynamic, visionary, creative, inspiring, pro-active and empowering (classroom) environment Bring positive benefits to the community Ensure that the channels for public participation and the rights of the child are fulfilled

Extracts from the original course descriptor, written by me to discuss with teachers and establish interest in a pilot project, are presented below: aims, Box 6.1 (1); objectives, Box 6.1 (2); details relating to the learning and teaching approaches, Box 6.1 (3); and suggestion for assessment, Box 6.1 (4). The original course descriptor is included in appendix 6.1 (2). I hoped that pupils would engage in a discussion over important ‘ingredients of society’ to help structure the pilot project. However, in order to help convey my expectations for a potential pilot project, and link theory to practice, I suggested seven topic headings as presented in Box 6.1(2). These topic headings were proposed to enable a holistic approach to society and thus incorporate pupils’ interests, and were open to adaptation. The topic headings were selected on the basis of a) offering engaging, ‘real world’ topics for pupils to explore; b) framing sustainable development deliberately as beyond usual expectations of ‘environmental issues’ by

naming topics within which environmental concerns would be discussed (eg food production methods, the use and availability of resources in our consumerist society, environmental as well as social justice); c) enabling opportunities to engage with the thinking modes; and d) offering learning in areas teachers considered to be relevant parts of the curriculum. I initially envisaged the pilot project running for an hour a week over a four week period. Throughout the pilot project an aim to facilitate discussions on social, environmental and economic aspects of proposals was key, as well as the individual, local and national scale. The initial course descriptor reflects my commitment to critical education as outlined at the start of this chapter. The ambition for the pilot project was built on an understanding of EfS in which the focus was on the pupils' interests and ideas for sustainable development facilitated by the teacher in the spirit of critical education, as addressed in chapter four. Indeed, this relates to the discussion in chapter two highlighting the importance of engaging with the stories that people live by and their understanding of sustainable development. Such an approach has major implications for the role of the teacher and pedagogy for EfS. My definition of EfS developed through practice is returned to in the concluding chapter in which I refer to the focus on the extent to which the environmental concerns were explicit during the pilot projects, informed by my concern about developing an Earth identity as endorsed in chapter two.

Box 6.1 (1): Extract of aims as articulated in original course descriptor for pilot project

1. Foster an understanding of the interconnectedness of the world and available resources.
2. Encourage a consideration of the consequences of decisions and form opinions of right livelihood in considering the need for sustainable development.
3. Engage students with the development of a better society and ownership of the future.
4. Create a dynamic, visionary, creative, inspiring, pro-active and empowering (classroom) environment.
5. Create an opportunity to reflect on values and critically evaluate which values must change and which must be encouraged.
6. Make education relevant by bridging the gaps between theory and practice; between subjects; and between the "real world" and school.
7. Bring positive benefits to the community.
8. Ensure that the channels for public participation and the rights of the child are fulfilled.

Box 6.1 (2): Extract of objectives as articulated in original course descriptor for pilot project

A basic introduction to the learning objectives relating to the specific topics is as follows:

Energy system: Be aware of unsustainable and inequitable energy use and alternatives to fossil fuels and macro generation.

Health system: Form opinions on what health means, factors that influence health and the issues of responsibility.

Justice system: Form opinions on what justice means and our rights and responsibilities.

Green architecture: Form opinions about the meaning of home, both on a community and planetary level and consider the factors relevant for improvement.

Wealth and consumption: Form opinions about the meaning of wealth, the design of the global economy, the importance of wealth and consumption to the individual.

Media/ Entertainment and Education: Form opinions of what education means and what skills and attributes a person should have in the 21st century. Form opinions of the influence of media and entertainment, the issues related to exposure and one's role models.

Food: Form opinions of the way in which food is produced and factors relating to reducing obesity and hunger.

Box 6.1 (3): Extract relating to the learning and teaching approach as articulated in original course descriptor for pilot project

The following 8 questions are guidance to encourage holistic thinking and motivating students to discuss and engage with the topics.

1. How is the current (socio-economic) system designed?
2. What are the consequences of such a design? Are they desirable? Who benefits?
3. What principles would guide the design of my ideal future?
4. Does the current system resemble my vision of my ideal future?
5. How should it be re-designed to produce an outcome that would resemble my ideal future?
6. What are the barriers to closing the gap between the current system and my ideal future?
7. Are my decisions in life reinforcing a system in which I want or one that I find dissatisfactory?
8. Should I engage in the opportunity to work towards my ideal future?

After an introduction to the rationale and the learning aims and objectives for the proposed subject the students will be encouraged to think about the main points, or "ingredients" of, their ideal future. The teacher, or facilitator, could introduce the ideal of political manifestos to help students focus on fundamental issues involved in organising a society, such as the suggested 8 topics. After generating issues the class would split into groups and choose or be allocated a topic/"ingredient". Each group would prepare for a class presentation and chairing a class discussion using the 8 questions as guidance.

The presentation should include:

1. What is thought of the *status quo*,
2. What disagreements they had,
3. Ideas for a better system,
4. Possibilities for action.

Box 6.1 (4): Extract of suggestions for assessment as articulated in original course descriptor for pilot project**8. Assessment.**

The assessment for this subject is designed to encourage the students to reflect on their experience. Each student will commence the year with an A and will have to justify to themselves, their peers and the teacher if they merit this grade. The students should be involved with setting their own assessments and a suggestion is that students write a letter(s) stipulating their intended aims and plans. Depending on the location of the school, opportunities will differ, possible suggestions include end of the year individual notebook explaining one's utopia, which could potentially form part of a class book and be available to other students; 1000-5000 essay, poster, YouTube film, lecture/seminar/talk about an important aspect of their utopia; a regeneration initiative with the community and letters to their MSP. The action research assessment has potential to initiate debate over the potential ways to transmit concern or enthusiasm for a particular issue whilst presenting an opportunity and building the confidence, to engage in realising ones vision.

Points to guide self-assessment relate to the subject's objectives and it is suggested that students split their grade to relate to these different objectives

Reservations about designing utopic visions as a fundamental component of EfS are included in appendix 6.1 (2). Appendix 6.1 (2) reflects the process of clarifying the practical relevance, and nature, of utopianism referred to in this research. This dialogue emerged as I reflected on the relevance of practice to theory and initial concerns as I prepared to discuss theory outwith academia. I considered potential questions I would be asked when proposing my theoretical outline that sought to engage pupils with designing and discussing their utopic vision. My concerns over utopianism related to the aspirations that do not connect to environmental concerns; the potential lack of consensus; the appropriateness of a school subject/project; and the relation to action competency. In retrospect, what was missing from the proposed course descriptor was an explicit, rather than implicit, reference to the thinking modes. As presented in Table 6.1 (1) and further clarified in Table 6. 1 (2), the thinking modes were embedded in the ambitions for the pilot project.

Table 6.1 (2) Thinking modes embedded in conceptual framework

Thinking mode	Strategy for delivery
Systems thinking	Pupils will be encouraged to consider their ideas from the focus of other topics. Pupils will also be encouraged to consider the environmental, social and economic consequences of their proposals and on the individual, local, national and global scale. Group presentations to the class will facilitate such discussions in addition to individual feedback. The broad range of topic headings, subject to change, reflects the ambition to engage with a holistic vision of society
Future thinking	Pupils will research and discuss their ideas for their utopia/collective future. Pupils will be encouraged to take ownership over their learning.
An emphasis on values and priorities	Pupils will be encouraged to consider the personal relevance of their proposals and the values guiding their alternative proposals for change. The pilot project will seek to listen to pupils' ideas and understanding of sustainable development rather than focus on set pro environmentally friendly behaviours. The pilot project has a flexible structure and pupils should be thus able to commence with their interests.
Action competency	Pupils will be encouraged to develop the skills and confidence to share their thoughts, research and proposals related to their collective future. Potentially pupils may act on their proposals depending on the pilot project development.

The guiding questions for monitoring and evaluating the pilot project are outlined in Table 3 (1). As is outlined, the broad questions that focused on: how the thinking modes currently fit into the curriculum; the success at delivering the thinking modes; the pupils' and teachers' ideas for improvement to the pilot project; and the concept of design thinking were adjusted in light of practice. As discussed in chapter seven, documenting the process of defining questions for evaluation in light of practice was considered key to my methodological approach. The evaluation was considered integral to the pilot project as a strategy to engage the pupils with the aims of the pilot project; potential research skills as co-investigators; and as essential in providing pupil

feedback to improve the delivery of the pilot project. Reflective journals were initially considered a useful method to facilitate pupils reflecting on the theoretical underpinnings of the pilot project. However, as outlined in Tables 3 (3) and 3 (4) and expanded on in the following write ups, the evaluation responded to what was appropriate for practice reflecting the context of barriers and opportunities in the classroom.

6.1.3 Conversations with secondary school teachers

As already introduced in the methodology chapter I held several conversations with teachers during the scoping stage, in 2009 to 2010. This section draws on three of the conversations which were recorded. Details relating to the nature of these conversations are included in the methodology chapter, section 3.4. This structure highlights the extent that the experience influenced the methodology: resulting in a commitment to action research and as such influencing the research questions.

The preliminary conversations, coupled with the experiences acknowledged in Table 3 (2), helped me transition from the realms of theory and academia into the language of practice. The opportunity to discuss my proposals for a pilot project improved my ability to articulate the project as a practical strategy for teachers to co-develop, which was beneficial when I met the teacher who would co-develop the first pilot project.

These three scoping conversations were with teachers from different subjects: maths; modern studies; and geography. Although the following refers to only three teachers' perspectives, the conversations were also insightful as an introduction to teachers' engagement with EfS, bringing to life reflections on the status of EfS in the school curriculum. As such this section expands on the previous chapter on policy and raises issues discussed in the following chapter seven which unites the theory on EfS, the policy critique, and the views of teachers and pupils emerging from this research.

Interest and Understanding of EfS

EfS appeared to be fundamental to Mr Richardson's and Mr Green's professional identity. Mr Richardson expressed a commitment to EfS explaining that: "you can't make them [the pupils] care but I see education as the key way of maybe making them recognise for themselves" and "fear doesn't motivate". However when speaking about the experience of EfS in schools, Mr Richardson expressed concern that other

teachers understood the purpose of education in a similar way, as discussed below under *Experiences of EfS in school*.

Mrs Simpson, a recently qualified teacher, explained that she didn't remember discussing sustainability at University. In our discussion concerning the responsibility of schools to deliver EfS, Mrs Simpson emphasised the importance of parental support in influencing attitudes towards schooling and the prominence of recycling in her understanding of EfS: "People don't think holistically, they don't think in the future, they are just out for number one, from my point of view, children today...as long as they've got their bottle it doesn't matter where it came from. They don't think about recycling..."

Mr Green spoke about his experience incorporating debates into the geography class and teaching about climate change. He acknowledged the struggle of enlightening the pupils to the "crisis" whilst not leading to despair. Mr Green stressed that the pupils were very different in how they respond to the challenge of sustainability therefore addressing such issues is hard in a group. Mr Green explained the importance of knowing that he was trying and working on the assumption that it is worth trying. Mr Green clearly felt a responsibility to engage the pupils in considering "the forces acting on them".

CfE and UNDES

The UNDES had a minimal, if any impact, on the teachers' understanding and delivery of EfS. Two of the three teachers were negative about CfE, referring to a lack of clarity and wasted resources.

Mr Richardson referred to CfE as disappointing, despite being a "fabulous opportunity to embed sustainability in the curriculum". Mr Richardson maintained that sustainability was not given priority compared to literacy and numeracy and "until it's there in black and white it's not going to happen". Teacher involvement in developing CfE was also called into question, as Mr Richardson commented, "you're not often listened to as a teacher" and "CfE is totally imposed on from outwith...didn't come from teachers...unless you really bother". Mr Richardson made reference to a colleague who binned the "stuff she gets from the CfE", indicating much wasted resources; and a visit from a "Boy in from a high position from Learning and Teaching Scotland" response to negative teacher feedback: "he point blank denied what we knew...unless Edinburgh is totally different from the rest of the country".

Mrs Simpson didn't know about the UNDES. In discussing CfE, Mrs Simpson implied that she required more structure: "there is no meat to it...doesn't tell us anything we could use...doesn't give you an example from what we are to work from...the answers aren't in here...".

Mr Green was enthusiastic about CfE and believed CfE had potential to support teachers, explained his support for the four capacities, and described the reforms as an encouraging move away from the exam factory and a "great nudge to the profession". Mr Green acknowledged that the degree to which teachers need to be pushed varied significantly. Mr Green stated a reluctance to "mess" with the exam syllabus as an enormous disincentive to "build in new materials", potentially addressed by CfE. Mr Green explained the prominence of the UNDES as "You would find it if you looked for it, [I] stumble across it now and again...and decades are a day of a year". Mr Green explained that he had used some of their resources.

Experience of EfS in school

Mr Richardson and Mr Green highlighted that much more should be done to embed sustainability into their schools.

Mr Richardson expressed doubts over the effectiveness of eco-schools and maintained that the programme was frequently preaching to the converted with few pupils involved. Mr Richardson also raised concerns about colleagues' interest and support for EfS and made reference to a Friends of the Earth Blog on Sustainability and the lack of comments. What emerged from this conversation was that after a significant amount of effort Mr Richardson "felt let down by people": "no one fucking bothered, no one came to have a look, I don't know why I bothered...Save the Bumble Bee, John Muir Trust, WWF. No teachers came to look in". Additionally, Mr Richardson made it clear that many teachers did not participate in the behaviours that eco-schools endorsed, such as a teacher driving around the block for a coffee. Mr Richardson spoke about the need for co-ordination. Mr Richardson's evaluation of a recent sustainable future week indicated that many of the departments didn't demonstrate a commitment and that "some kids got lots and some very little" in terms of what he considered good practice. Mr Richardson spoke about the amount of time teachers had for reflection, despite there being "a lot of good will, especially if you are working like Billy O". Mr Richardson made reference to a chartered teacher award where you must provide evidence of becoming a reflective practitioner. A discussion about Mr

Richardson's experience doing an in-service day on climate change indicated the extent of mistrust and disengagement with climate science. Mr Richardson also commented on the lack of an overall strategy on the LTS sustainable education page and helpful examples that were useful for him. Through sharing a mutual eagerness with me to engage pupils with the outside world and in thinking about their role as change agents, Mr Richardson spoke about a recent MSP's visit that had failed to meet expectations. The pupils had not been engaged or inspired: "most of them didn't get it, even the oldest kids". Interestingly, Mr Richardson explained that the evaluation by HMle, one woman in school for a day, had not resonated with how the teachers saw the school and the department.

Mr Green explained that he didn't "think sustainability has anywhere near the backing that enterprise education does" and later on in the conversation "nothing like enterprise or citizenship...it certainly fits in... even the eco-stuff has higher profile". Despite acknowledging that the school was involved in many "good things", they had their silver award and were involved in a climate change programme, he concluded: "we're not really seriously green". Mr Green spoke about a recent project, the Island project, that he had done as part of the geography class where pupils design their Island in conjunction with course material in the geography curriculum. His description of the Island project had significant overlaps with my 'strategy' in terms of designing a 'wiser' society in full operation.

An important issue that Mr Green identified was that third sector bodies delivering projects related to EfS had in-depth knowledge but no teaching skills or ability to engage the pupils.

My proposed project

All teachers indicated that the focus of developing confidence, critical thinking, and responsibility endorsed in the theoretical underpinning of the pilot project was very much in the spirit of CfE. However, the teachers were not in a position to pilot the project and stressed the need for more structure.

Mr Richardson was positive about the conceptual outline we discussed: "You're saying that you want them to present, to critique, the ownership of the ideas...brilliant in terms of current educational thinking, brilliant, very, very good...". However, he admitted to being "vague about what I was suggesting" and advised me to add more

structure. We had discussed what year group he thought I could work with: he doubted it would be possible for me to work with 15 and 16 year olds because teachers were bound by exams even although the CfE was supposed to free things up. Originally, he thought that it would be very cross-curricular. Correspondence gradually tailed off and the pilot project was not executed at the High School. Mr Richardson also advised me that teachers were “overwhelmed by flipping e-mails” and that the best way to contact schools was to ask the e-mail to be forwarded to the person responsible for sustainability matters in the school.

Mrs Simpson advised that more guidance was needed and that at the start I could ask the pupils what they would like to change in their own location. She drew on a recent student led learning enterprise initiative that the pupils found difficult as the task was too open.

Mr Green warned that I would struggle to find a group of pupils within school time, despite an acknowledgement that it was “very much in the style of CfE”. After speaking to Mr Green I decided to put a pack together to clarify my understanding of EfS. I grew to appreciate the importance of contextualising the proposed pilot project with reference to CfE.

As demonstrated above the scoping conversations reflected divergent views on CfE and extent that it would facilitate EfS at the time of the scoping stage. Mr Richardson and Mr Green, sharing a similar understanding of EfS as endorsed in the theoretical underpinnings for the pilot project, believed that EfS was not prioritised. Concerns about the delivery of EfS were expressed: the role of NGOs delivering EfS; the support of other teachers for EfS initiatives and propensity to engage; and the need for a comprehensive strategy for EfS, despite reference to interesting EfS initiatives. The support the teachers demonstrated for the pilot project fuelled my eagerness to start working with a school on the practical implementation of a pilot project for EfS.

This section has briefly introduced key themes in the conversations that addressed the teachers’ attitudes towards EfS, the teachers’ responses to CfE in the early stages of CfE policy development and implementation, and a broad discussion over the conceptual outline for a pilot project, as presented in the previous section. As demonstrated, the conversations reflect a diversity of views held by teachers on CfE and indicated secondary schools were struggling to incorporate EfS in the school ethos.

Part Two: Pilot Project One: Auchencairn Academy

The first pilot project ran over eight weeks with an English class of 30 S4 pupils (approx age: 15-16 years) for four hours per week. The pilot project resulted in the class researching and challenging aspects of society and proposing ideas for a wiser design, culminating in a community event where the pupils presented their ideas in 'expert groups'. The pupils were considered academically engaged by the teacher. This part, part two, consists of the initial meeting with the teacher, Maria (section 6.2.1); preparation of resources 6.2.2; and then an overview of the pilot project (section 6.2.3). The teacher profile and perspective is then presented in section 6.2.4; followed by the class profile and pupils' feedback (section 6.2.5); reference to critical friends (6.2.6); and concludes with my perspective (6.2.7), including reflections on the pilot project to inform a potential second pilot project.

The conceptual framework as presented in section 6.1.2 was discussed with Maria at the start of the first pilot project, acting as the initial foundations for the pilot project and adapted to the suit classroom delivery. Thus the design of pilot project one was informed by the conceptual framework as addressed in chapter four, and by an understanding of the magnitude of the case for change as addressed in chapter two, and the potentially supportive, yet challenging, policy framework, described in chapter five.

The research during the first pilot project was primarily focused on implementing our plans and, when appropriate, working with the teacher to gather feedback suitable for inclusion in the thesis. Pupils' work was not evaluated, coded and presented in the thesis write up in relation to the conceptual framework as I was uncomfortable about making such value judgements. A desire to engage pupils in critical co-reflection on the pilot project with reference to the conceptual framework was not enacted due to time constraints within both schools. As acknowledged in the introduction to this chapter, the theoretical underpinnings from chapter four and the policy context are returned to in the concluding chapter to guide deeper analysis on the nature of EfS delivered.

My evaluation is clearly in the spirit of action research as questions developed as a response to pupil engagement and capabilities, and to help pupils engage with the rationale of the pilot project, as well as to encourage their feedback. Initially some

questions asked during the evaluation were possibly leading to some extent as I developed my skills in lesss biased evaluation and confidence engaging with young people. It proved difficult in practice to draw on in-depth reflection on progress and their understanding of EfS. In considering the authenticity of pupils' positive attitudes, reference to their final performance and Maria's and my own views on witnessing the pupils engage and develop in confidence are important.

6.2.1 Initial meeting with teacher

I met Maria, an English teacher at Auchencairn Academy, at a teacher training conference held at the University of St Andrews. Maria was keen to try out new projects and challenge her English class. I visited Maria at Auchencairn Academy with the initial course descriptor (see conceptual framework as presented in section 6.1.2). I had already e-mailed her my PhD candidate transfer report which proposed the understanding of EfS discussed in chapter three, including design and utopianism as fundamental components to clarify, guide and evaluate EfS. As discussed in part one, the initial course descriptor was written to convey my understanding of EfS built on the theoretical underpinnings discussed in the previous chapter and served as a basis for discussion with teachers to inform pilot projects. The initial course descriptor included my understanding of EfS, and suggested aims and objectives; broad topic headings; a timeframe; details relating to the learning and teaching approach; and questions to guide the delivery of the pilot projects and ideas for assessment.

During our first meeting we developed a timeline, see appendix 6.2 (1), based on the conceptual outline as presented in section 6.1.2, for Maria's S4 English class. The timeline comprised of four hours per week (two single periods and a double period) for eight weeks, finishing with a final presentation of pupils' work. The class for the pilot project were "high achieving" pupils set to undertake Higher English. The original plan of pupils working in groups for a couple of weeks and then changing topics was altered. We decided that it was best for the pupils to become confident, or 'experts', in one area. It was decided that we should have the launch at the University of St Andrews with the help of University students running focus groups on the various topics to ensure pupils understood the pilot project; help pupils develop a mind map/research plan to work on when back at school; and establish the project as a new and exciting initiative with opportunities to engage outside the school walls. The preparation for the pilot project after speaking to Maria is outlined below.

6.2.2 Preparation of resources

This section briefly refers to the initial preparation for the pilot project before it started, under the following headings: names of pupils; the groups and supporting packs; moving beyond academia and reflective group workbooks; and preparation of facilitators.

Names of pupils

Maria printed a sheet with pupils' names and photos, which was very useful. Knowing the names of the pupils was extremely important for my position in the class as not staying an 'outsider' and tailoring feedback for individuals based on their interests and abilities.

The groups and supporting packs

The topic themes (Energy; Health; Green Building; Food; Education and Media/Entertainment; Justice) were proposed by me as potential topics to enable a holistic engagement with current society, as justified in section 6.1.2. I originally intended to encourage pupils to think about 'the ingredients of society' or key areas for a political party to address, but due to time constraints and an agreement that these themes were appropriate we adopted the pre-selected themes. I compiled 'supporting packs' for each group: I collated a wide range of issues that could be examined under each topic heading; researched engaging reading material to reference for pupils; and aimed to write relevant thought provoking questions. I made a conscious effort to include different perspectives. It was proposed that the broad themes would provide structure, and a well facilitated discussion would result in an appreciation of the interconnected spheres: the environmental, social, and economic; and scales: the individual, local, national and international. The process of completing the supporting packs was helpful in moving beyond academia into a practical realm. The supporting packs were also given to the facilitators who helped during the launch of the project, discussed below.

Moving beyond academia and reflective group workbooks

Having secured a school I worried that it was indeed possible to turn this abstract idea into something practical. I envisioned myself being presented with such a task and sat down to write examples of what pupils may experience in a reflective diary, writing an

imagined diary entry from a pupil's perspective for each of the topic headings, see appendix 6.2 (2). This exercise increased my understanding of what I envisaged happening during class time and confidence that I had a clear goal for the classwork to be discussed with Maria. This exercise also reflects my expectations of pupils' approaches to the project before meeting the class. The high level of optimism about pupils' abilities, in terms of: reflection on what was done and felt; team work; and propensity to engage with issues and question current notions of development, is important to acknowledge prior to commencing the pilot project.

At the start of the pilot project all the groups were issued a workbook to encourage them to think about how they approached the pilot project and more generally EfS. Maria and I had hoped to allocate time at the end of the class to clarify and discuss the questions posed in the workbook as a class before the groups completed the workbooks. It was hypothesised that the completion of the workbook would generate discussions in the group on how they were progressing and also be a valuable resource for pupils, Maria and myself for reflecting back on the pilot project.

Preparation of facilitators

Recruiting the University facilitators to participate during the launch of the pilot project was an unforeseen difficult experience as few University students responded to a call for 'facilitators' on the library notice board and student memos. The final facilitators were either friends or friends of friends. This highlighted potential to research University students' attitudes, confidence and time to engage with knowledge exchange outside of the University. Care was taken to ensure that both males and females took part and to recruit people who had experience working with young people. Eight facilitators were recruited, all with an involvement in the Sustainable Development Degree with one exception.

I discussed and briefed the facilitators on their role in order for them to help facilitate a 60 minute focus group discussion to generate ideas for the pupils' research plan. The facilitators were asked if they had any questions, given the supporting document relating to their topic, and instructions to:

1. Draw on the pupils' own knowledge
2. Encourage pupils to think about controversial areas
3. Encourage pupils to consider ways in which issues relate to them

4. Encourage pupils to consider areas that they would like to do more research to support debates
5. Encourage pupils to consider areas that inspire them
6. Ask pupils about their understanding of the project

These six points remained fundamental to the delivery of the pilot project.

6.2.3 An overview of the pilot project

The timetable was re-adjusted several times throughout the course of the pilot project. An overview of the actual timeline, as devised with Maria is included in appendix 6.2 (3) which comprised of: clarifying aims and objectives; work on presentational skills; presentations; homework; class recaps; the presentation to the community; and a period of evaluation. A description of the pilot project is presented below, through reference to my understanding of five fundamental aspects, or rather milestones: the launch in St Andrews, presentations, the MSP's visit, the presentation to the community, and the final day of evaluation. All pupils received a certificate to acknowledge their participation on completion, which stated 'throughout the pilot project students investigated the norms of our society and proposed their visions for a more ecologically sustainable and socially just world. Participation involved independent research, group work, debate, and presentation of ideas to a diverse audience'.

The launch in St Andrews

The pupils came to the University of St Andrews for the launch of the pilot project. I gave a 30 minute 'introductory lecture' comprising of a brief personal introduction; an introduction to my understanding of sustainable development, education, EfS; and my research aims. A brief discussion followed the lecture to consolidate understanding. The pupils then chose/were allocated their topic and participated in a focus group discussion on their topic for an hour, each with a facilitator. Figure 6.2(1) is an example of the resulting mind maps, comprising issues that pupils raised as relevant to their topic and areas they wanted to investigate when back in the classroom.

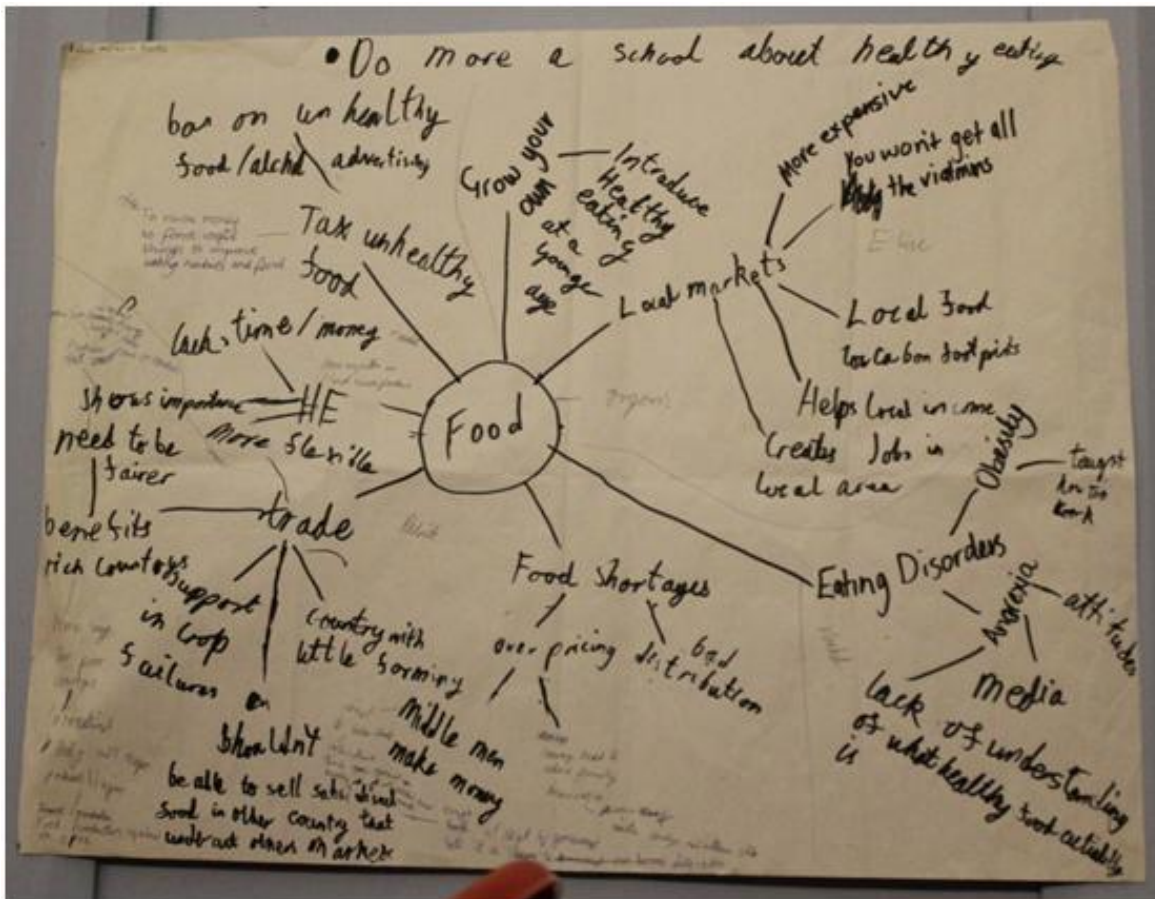


Figure 6.2(1): An example of a mind map completed by pupils and University facilitators during the launch of Auchencairn pilot project

The pupils then spent an hour in the computer lab to commence their research in groups. The day finished with a recap of and reflection on the day, including the groups presenting their topic to the class and then completing feedback forms on the different sessions, as discussed under pupil feedback (section 6.2.5b).

Presentations

As already explained, the pupils were given instructions to work in groups to research an area that interested them and make suggestion for the future that would convey their ideas of sustainable development related to their topic. Thus the final aim was to present a holistic vision of a better society as a class. All pupils created presentations that contained views on how current society could be improved. There was confusion at the start and it took a while for many of the pupils to understand the task. The original criteria for analysing the project: evidence of system thinking, future thinking, engagement with values and priorities, and action competency was adjusted to suit the classroom. Maria and I gave written group feedback on: structure; content

(evidence of research, clarity of information, and personal views); originality (evidence of creativity, innovation and personal views); and proposals for the future (clarity of the future message). The general feedback from Maria and I was to make the presentations more personal. The reliability of research, the clarity of a future message, and the personal relevance varied in the various groups' presentations. Each group's presentation to the class was filmed twice and the pupils were then encouraged to reflect on how they should improve the presentation. The final presentation was to the wider community, as discussed below.

MSP's visit

An MSP was invited by myself and Maria to meet the class and listen to their presentations. The MSP's visit was regarded as appropriate to emphasise the political nature of the pilot project as a platform for pupils to challenge and share their views on important aspects of society. The pupils presented the essence of their presentations that they were preparing for the wider community to the MSP and the MSP engaged with them on several issues, as returned to under the following sections on teacher and pupil feedback. A reporter from the Times Educational Supplement was also present, invited by the headmaster eager to showcase our pilot project. His subsequent write up of the MSP's visit is returned to under critical friends, section 6.2.6.

Recaps

Throughout the pilot project we held group and class conversations about the reasons behind the pilot project, relating to both the topics and the original rational for the pilot project. The pupils were also frequently questioned about what they had been working on and their future plans. Many worksheets were written and used to structure the pilot project and enhance pupils' learning, for example: *Structure for Presentation; Expectations; Assignment for the Holiday; Structure; Preparing an Effective Presentation; and Template for Feedback*. The class were able to watch other groups present; had their own presentations filmed and reflected on how to improve them; and a Wiki was set up and used for feedback purposes on the groups' presentations. Maria and I had a good understanding of the dynamics within the groups in order to ensure that everyone was involved.

The pupils were asked to write a summary of the project. Iain was the only pupil who completed this task, due to the priority focus on improving the presentations. However, his summary below indicates a general understanding of the pilot project in the class: as an opportunity to research; “enlighten themselves”; and “express their views” on how to create an “ideal, sustainable future”. Through conversations with pupils it was clear that other pupils, although not all, thought about and were supportive of the pedagogy addressed by Iain:

“So far in this pilot project, we have split into our groups, discussed the project and begun research on our given sub-sections. I feel this project has the potential to expand and develop. The coverage of all subjects that make up society gives us a variety to expand and enlighten ourselves in. I think that once this pilot project has finished, our school or other schools should take the initiative and introduce this to other pupils to let them express their views. The research topics are very general, and with five or so members per topic allows different members to target specific aspects of the topic. This also allows us a bit of free roam. Important as to let us “roam” with our ideas about what we consider to be the ideal, sustainable future. The project itself, with the help of a presentation was made to seem complex, when it is really a rather simplistic idea. The wheels, set into motion by Zoe and with the aid of Miss McLay [Maria] are now going themselves with the odd nudge here and there. I am enjoying myself thoroughly, but remembering that this is our chance to get our views heard by the people in power, an opportunity that doesn’t often arise. The project has clearly been planned comprehensively and thoroughly. We are also given chances to develop researching and teamwork skills, with the view of improving our confidence towards the final presentation. To conclude, the project is a good idea, and we could hear some interesting and potentially very good ideas arise”.

The community event

The importance of engaging the community grew throughout the pilot project as an opportunity for the pupils to share their views and develop the skills involved in working towards presenting in front of a diverse audience. The pupils held an event, as detailed in the programme for “an evening of visions for our future”; see Figure 6.2 (2).

An Evening of Visions for Our Future

Are we living in a wise world? How should we create a wiser world?

On the 25th of September, pupils at Auchencairn Academy were set the task of researching and challenging aspects of our society and proposing ideas for a wiser design. With eight "expert groups" working on diverse topics pupils have explored the fundamental "ingredients of society".

The project is premised on a belief that there is more optimism for a fairer, respectful and sustainable future when people are driven by a vision of a better society.

We hope that you will enjoy listening to the views of our "future generation".

We hope that these presentations will spark off debate for the interval.... and beyond!

Auchencairn Academy Hall,
Thursday the 11th of November, 2010
7pm to 9pm

Part 1 (presentations 7pm-7.45pm)

Wealth and Consumption *Jenny Riley; May Williams; Helen Steele*

We as a group think that wealth and consumption is not necessarily to do with money itself but more the wealth of a country in a happiness form. A country takes for granted things such as coal and oil but, if you think about it, without these things we wouldn't have the smaller necessities that we truly enjoy. However, that doesn't mean we should yield to a consumer society.

Health *Kirsty Christie; Jade Lister; Gill Wallace; Annie Doran;; Rebecca Millar*

We have been researching the topic of health. We have discovered many eye-opening things and had a good time along the way. It's been difficult and we've been worried but all together we have learned loads and it's given us an opportunity to take part of our learning into our own hands.

Justice *Jack Matthews; Adam Sime; Zoe Rankin*

Initially when we were presented with the topic of justice we were unsure of how to broach such a vast subject. We decided on three main topics within the justice system to investigate further. During the process of this project our knowledge of these subjects greatly increased along with our interest.

Food *Katie Pyke; Phoebe Henderson; Michael Gillespie*

Food is essential for human life. Without it we cannot survive. This project has taught us of our own ignorance in regard to this subject. It has taught us to cooperate and work as one. Together we can build a better world.

Part 2 (presentations 8.10pm -9pm)

Governance *Iain Hay; James Stevenson; Simon Young*

Governance is one of the most important aspects in our day to day lives. However, it often goes unnoticed and many take it for granted. They do not fully understand all the hard work and tough decisions that are made daily by important groups of people that go on to affect our lives and make them seem “normal”.

Green Building

Sophie Sheldon; Rob Suttie; Stephen Pringle

We found green building to be quite an unheard topic but after researching we found it to be very rewarding and enlightening. Our talks try to explain what green building is and present you with ideas you have perhaps not considered before. This is not just about tree hugging hippies...

Media/ Entertainment and Education

James McDonal; Luella Martin; John Hill; Louise Roberts

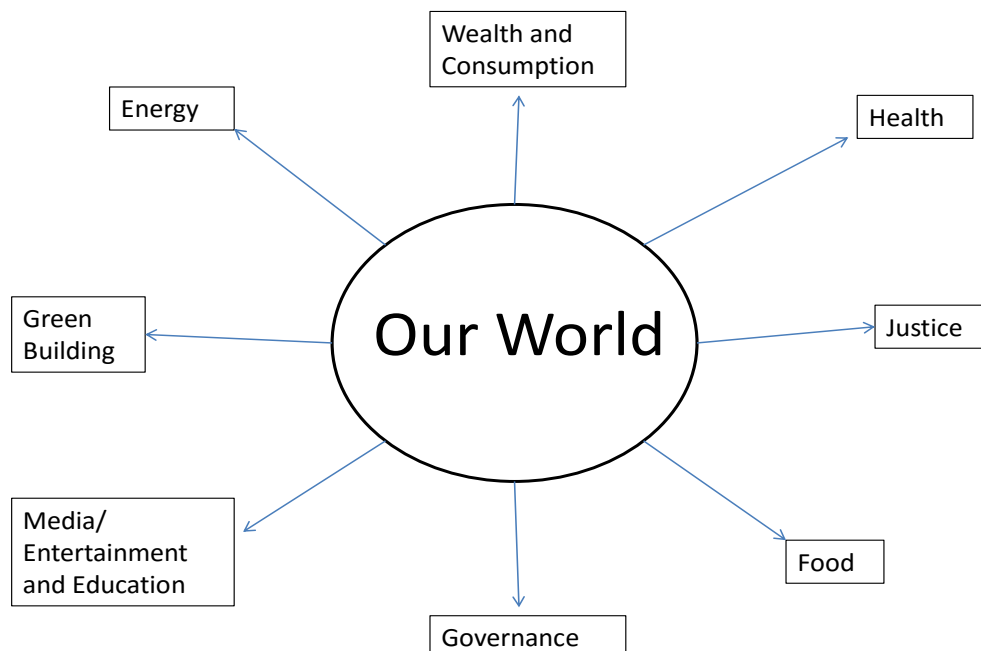
We chose the topic Media/ Entertainment and Education because it appealed to us as we are surrounded by it every day. It has been a real eye opener for us. We hope that our group’s talk has the same affect on you and challenges, and maybe even changes, your entire perception on media, entertainment and education.

Energy

Robin Peddie; Craig Gorrie; Rowan Milne; Rachel Jacobs; Amy Christie; Cathy Bonthron

From the start we knew that this project was going to be a challenge. However, we all chose energy as we knew it would have a huge impact on our future. This experience has taught us that in order to achieve the best work we can we have to work as a team.

Thank you for attending!



“the worst dangers and the greatest hopes are borne by the same function: the human mind itself”
(Morin, 1999)

“Our biggest challenge in this new century is to take an idea that is abstract- sustainable development- and turn it into reality for all the world’s people”
(Kofi Annan, 2006)

“Education without values, as useful as it is, seems rather to make man a more clever devil”
(C.S.Lewis, 1959)

Figure 6.2 (2): Programme for community event considered a fundamental aspect of Auchencairn pilot project

Pupils presented their research findings on how we should create a better world using formal presentations, song, a drama sketch, and interactions with the audience. Approximately 100 people, including parents, friends, teachers, students from the University of St Andrews, local authority representatives and other local community members, attended the event. The presentations were described by audience members as thought provoking, funny, inspiring, original, and a unique opportunity to hear the views of our “next generation”. Conversations with friends that had attended the event are returned to under critical friends, section 6.2.6. A range of issues were addressed: including, alternatives to the existing Scottish Prison system; proposed taxes on “fat foods” to support organic farming; learning about Islam in classes to improve international cultural relationships; gender equality and the age of consent; mental health; and false advertising. A happiness index was recommended as an alternative to the Gross Domestic Product and a song on building eco-efficiency was composed to the tune of “Don’t want to be lonely this Christmas”. The attendees were asked to share their views on the issues raised during the presentations. They did this through writing their thoughts and comments on paper leaves and attaching them to the presenting groups’ tree. Many of the attendees participated; see Figure 6.2 (3).

6.2.4 Teacher profile and perspective

This section draws on the main, and overlapping, themes that emerged from a discussion with Maria after the pilot project had ended. I commenced with a semi-structured interview, in order to ensure that I questioned Maria on relevant points due to time pressures. The conversation took place naturally without the guidance I brought with me. The guiding themes for the semi-structured interview were informed by the frequent discussions with Maria, approximately each class terminated in a discussion, throughout the course of the pilot project. The conversation was structured to capture salient themes that had emerged in discussions focused on developing a strategy for EfS.

As discussed below the running of the pilot project was, as Maria described, “Pretty intense...”. However, Maria was clearly pleased with the learning experience we created, and model we developed, as demonstrated in the following quotes:

“I thought it was brilliant...Absolutely brilliant. I think it demonstrates exactly the process of what happens when you plan an outcome and not a lesson so to speak”

“I could go into any boardroom of teachers and be like: this will not fail but you need to realise it’s not something that you own. If you try and dictate to them it’s not going to work. You know what I mean? And we did exactly that, right from day top in that computing lab and they told us this is what we want to do...”

The teacher profile and perspective is presented below with reference to the following themes and subheadings: *Teacher profile*, with reference to Maria’s enthusiasm, understanding of the teaching requirements and class profile, the importance of pupil ownership, approach to class and class profile, school working environment; *Evaluation*, with reference to the reflective diaries, English perspective and CfE, evaluation for EfS; *Ideas for improvement*; and *EfS at Auchencairn Academy*.

TEACHER PROFILE

Enthusiasm

Maria's enthusiasm and capacity for inspiration was noted by most University "facilitators" on the day of the launch. Maria was a popular, committed teacher and her enthusiasm for sharing the experience with other teachers was notable, reflected in the following quote: "That could be brilliant. We should do like a twilight thing. These are all the cross curriculum links, this is how you can get involved...from an English perspective". Throughout the project, Maria's heartfelt commitment to the pupils, enthusiasm, and ability to engage on a personal level was clear. Maria described the final presentations to the community as "very moving".

Understanding of teaching requirements and class profile

Aware that I would have struggled to run the pilot project with a teacher who was not as inspiring as Maria, I asked whether or not she thought other teachers would be able to deliver a similar project. Maria's response gives an insight into her understanding of the teaching requirements to deliver such a project, her commitment to pupil led learning and her profession. Maria explained that she enjoyed taking risks, and that the project was a risk as "we didn't know it was going to work". Maria explained that she expected other teachers could do it but may need varying levels of support: the teacher would need to know their class and have faith in their abilities, a requirement considered key to the success of our project. Maria highlighted that "fear is a big thing in education which stops people from doing things". Maria also spoke about the ability to ensure pupil-led learning and work with the class towards a final goal, as emphasised below.

Through my role in supporting the delivery of the pilot project the challenge of critical pedagogy was highlighted. For example, I had an interesting conversation about false eyelashes with a girl in the media/entertainment group who complained that it was frustrating as they are never as good as shown in the adverts. Confused that this could be an issue that she felt annoyed about I distinctly remember a point where I had no idea how to progress without imposing my views. On the subject of false eyelashes and the disappointment that they brought, Maria was able to tie this concern into the wider concern about false advertising. This conversation serves as

an example of the difficulty of becoming a facilitator and not an instructor, and Maria's ability as the former.

The importance of pupil ownership

The following quotes emphasise the importance of, and process, of pupil ownership and pupil-led learning for Maria informing the pilot project:

"And what I really, really liked was the fact that it was completely theirs. And I nudged them here and there, and we both...did, we would plan, and re plan and we had an overview, we had a timeline of we better try and do this then...but essentially it was theirs, they owned it and they haven't forgotten it. Whereas I could take them through an essay, or a poem that they've read and it's not the same process because they didn't lead it"

"if you want it to be owned, you need to avoid do this worksheet, do this task"

It is important to acknowledge the balance between pupil-led learning and Maria's clear organisational skills and ability to provide sufficient framing for the pupils to progress. Maria described herself: "I'm a teacher: I'm a professional planner".

Approach to class and class profile

As already emphasised Maria's faith in the ability, and high expectations, of the class and her commitment to facilitate pupil feedback was notable. Maria explained that she wasn't surprised that "they came up to the mark" or that at the beginning it "was a bit all over the place" as this was part of the process of "using the right kind of feedback": "and that's about using questioning, it's about using questioning techniques to draw out of them: well how could it be better, how could you make it original, what could you add". It is important to acknowledge that the pupils' abilities were very influential to the success of the pilot project. The pupils already had good presentation skills having already done solo talks as part of previous coursework. Due to the timing of the pilot project, I was present with Maria whilst she taught 'less academic' pupils and her commitment to help pupils achieve their potential, regardless of abilities, was clear.

At the time of the conversation I was unclear whether or not the evaluation of the content of the presentations would inform the PhD write up. The discussion about the evaluation of the presentations gave an insight into the class profile. Maria explained the evaluation of the presentations could be an interesting avenue to research after I told her that I was in the process of organising a second pilot project

at Torr Academy, a school recognised by Maria as having a very different catchment area in terms of socio-economic background. In suggesting that it would be really interesting to compare the two schools' approaches to the pilot project Maria highlighted that the majority of the class came from privileged socio-economic backgrounds, which influenced their approach to the pilot project. For example, the pupils tended not to focus on cost when discussing organic foods and there was no mention of drug abuse.

School working environment

Interdisciplinarity was central to the pilot project. My initial focus was developing an appreciation of interconnectedness through the topics, as endorsed in chapter four under system thinking. However, I soon began to consider interdisciplinarity, or rather cross curriculum, in a more conventional light. Before long it was clear that the pilot project could include other subject areas as Maria explained, "there is huge potential for it to link across history, modern studies, art, music, geography".

As an outsider I was struck by the unsupportive response from other teachers. At one point, I felt hostility from one of Maria's colleagues. I interpreted this as jealousy towards Maria: a young and popular teacher. I questioned her about the challenge of working with other departments. The following quote highlights Maria's faith in the class and her teaching but also the challenges and unintended consequences faced by pushing boundaries. Maria explained that "Staff weren't supportive here because of the newness, because of the risk factor" and that some staff members could be intimidated by Maria's ability to "go above and beyond", worried that she will have high expectations of them to approach work in a similar fashion. Additionally Maria highlighted that it was a "hectic and busy time" and that the pressure of exams constrains teachers: "I knew that I could justify it in terms of having a two year Higher course. I think other people who were pushing them towards exams are thinking hold on a minute I don't think we have the time to go into something that had it failed they couldn't bring back the time".

Having worked closely with Maria it became apparent that she frequently worked overtime, including weekends to plan teaching, and thus found her workload stressful as she had other commitments. Maria's lack of time and stress levels should be considered an important consideration for EfS delivery. This point is returned to in chapter seven.

EVALUATION

The reflective diaries

We had planned that the completion of reflective diaries would provide an opportunity for reflective learning and constitute an important data gathering technique. Maria emphasised that such reflection for pupils was challenging. Maria explained that despite being “bright kids”, the pupils were “not very good” at reflection: “They’ll say thinks like “Do I understand that, of course I understand that, I’m happy”. But they don’t evaluate it...”. Maria explained that she “should have done more work with them on how to evaluate” and developing their “meta cognitive thinking, when you think about your thinking”, clarifying “We need to help them really focus...they need to be provided with that language to focus on how is this having an impact on me, how am I learning, what is my approach here...how am I going to find out more?”

There were time constraints to focus on reflection. As Maria explained, within a 55 minute period it was difficult to dedicate sufficient time for individual reflection. Maria suggested that it would have been good if the pupils had a mentor so that they did not always have to write their reflections. However, it is important to acknowledge that reflection did play a role in the delivery of the pilot project, despite not in the form planned for data generation. As already quoted above, Maria attributed the success of the pilot project to the pupil-led learning, which relied on appropriate questioning. The pupils were shown recordings of their presentations to help improve their presentations and on various occasions throughout the pilot project Maria recapped with the class on what had been done and asked pupils to articulate their plans for the future.

English perspective and CfE

Maria spoke about the pilot project in relation to CfE and ran an in-service training session based on her experience of the pilot project. Although we did not go into a great deal of depth explicitly addressing CfE in the conversation, it was clear that Maria felt the pilot project sat well within CfE commenting that the pilot project was “so Curriculum for Excellence it will kill you”. Maria emphasised that the pilot project had covered the Experiences and Outcomes of CfE, and that “It really has helped [the pupils] confidence for Higher English”. Maria emphasised the “many key English skills that were developed as a knock on effect of their research, of their interests”: “the kids

were engaged in a process of learning on so many different levels. Learning about the topics, learning about the power of language, learning about presentations, learning about structuring". Later on in the conversation, when I explained my difficulty evaluating in terms of the original four thinking modes (system thinking, future thinking, an emphasis on values and priorities and action competency), Maria explained: "In terms of clear cut, the way I'm evaluating right now...attainment went up. Standard of writing is better". I did not discuss with Maria how we had planned to evaluate in terms of the original underpinnings when it became clear that there was not sufficient time to complete the reflective journals. However, rather than considering it a limitation that our evaluation was not explicitly linked to the four thinking modes during the pilot project Maria's evaluation was insightful. Maria's evaluation in terms of pupils' progress towards the aims of their Higher English class demonstrated CfE provided space for developing the pilot project based on the theoretical underpinnings, as acknowledged below.

Evaluation for EfS

Themes emerged throughout our conversation relevant to whether or not the pupils had engaged in learning appropriate for EfS. Both Maria and I felt that the pilot project had contributed to, as Maria explained "heightened awareness" and "demystifying sustainable development": "they're beginning to pick apart the big topics and think about other things...So rather than it being things like global warming they've tended to focus in on things...they've had more confidence that they have a lot to say on things that are not big and vague really...". Maria viewed some topics as easier to engage with than others depending on pupils' perception of relevance. Maria commented on pupils "trying to find their voice", giving examples of thinking about food miles and waste. Maria expanded on the process of engaging with values demonstrated during the pilot project, explaining "it's their way of maturing, making choices...and reflecting on choices that are available to them."

An unrelated assignment on an emotional experience also indicated that the pupils had been very engaged. The essays are returned to in section 6.2.5d. Whilst discussing the pupils' work, Maria said that I would be able to "lift quotations from [the essays] which demonstrates the impact on their personal development". Maria explained that she was surprised by how many pupils choose to evaluate the pilot

project “as something that was personal and...sort of had had an impact on their development”:

“We talked about personal writing...it was almost unrelated. Where you have an extreme of emotion and that’s why we call it the death essay. They relate it to an event but I was trying to get them to describe feelings. And most of them went straight back to this. And it’s the last paragraphs...They all go down that sort of similar vein...being quite traumatised...senses of pride...”

My perception of initial low levels of emotional and personal engagement in the pupils’ presentations had concerned me. I understood this as evidence that pupils were not sharing my original excitement over the potential of the pilot project. I questioned Maria about this and she emphasised the difficulty of asking teenagers to present to teenagers and the resulting focus on aesthetics, explaining that the community event was actually “a less threatening audience.” The growth in confidence and desire to be heard, as opposed to being apathetic, is key to EfS. Both Maria and I considered the MSP’s visit acted as a catalyst in the class realising that their opinions were valuable and emotionally engaging in the pilot project, in addition to “bringing the kids together”. As Maria described: “although it was a negative response... it was productive in a roundabout sort of way. Because they were like – no, we are very good at this. And they wanted then to be heard”.

An overview of the way in which the thinking modes informed the delivery of the pilot project is presented under my perspective, section 6.2.7.

Ideas for improvement

I discussed with Maria my ideas on how the pilot project could be improved and changes to consider for a potential repeat. This section documents key themes that emerged during our discussion.

Questioning Maria about the timescale was important. Maria was happy with the timescale explaining that it “was perfect for them”, considering the academic nature of the class. In response to this question, Maria emphasised the importance of working towards a specific outcome and constantly re-adjusting our plans: “We had enough time without it dragging on to produce something good and that’s what they say about targets: specific, achievable, measurable, this is the end date and this is when it’s going to happen. Because our planning was totally fluid. All I remember is A4 sheets with timelines and timelines”.

I also asked Maria if she was going to re-do the pilot project whether she would make any changes in light of our experience. Maria reiterated that because we were working with the abilities of the class we formatted it well and part of its success was that the pupils defined the outcome. As Maria explained, the pilot project would not have worked with “this is what we’ll be doing in lesson one, this is what we’ll be doing in lesson two”. Maria stressed that for less able pupils “they might need a little bit more modelling”, for example time built in to demonstrate expectations for their work and what makes a good presentation. Maria also highlighted that certain topics were harder to engage with than others on a personal level, referring to the difficulty pupils had in contextualising green building, a topic proposed by my supervisor, and suggested the need for more practical ideas to engage them in this specific topic.

As already emphasised, reflection and interdisciplinarity were identified as important areas to develop. Maria and I both felt that it would be a “good preparatory exercise to be thinking about the language of reflection” (Maria). As already addressed, Maria felt that the pilot project had great potential to link in with other subjects.

The link between University students and the pupils could have been developed. Maria’s feedback also indicated this could be an area to develop. Maria emphasised that the pupils benefited from the link with the University and that the pupils loved the interaction with the University students, including the class outing to and use of the university computers. Maria also commented on my role in the classroom as beneficial as the pupils had another person, in addition to their teacher, to impress.

I was keen to include more opportunities for primary research and asked Maria whether or not she agreed that this could be developed, for example asking pupils to investigate their classmates’ views on relevant issues. Maria suggested potentially starting the project looking at, and analysing, the “school as a microcosm of society” or the “society of the school”, including the food supply and production; the “governance” in terms of the management team; and health in terms of the school nurse and psychologist. As Maria suggested, for younger or less able pupils “you could have shown them the design of society through the context of the school” with an introductory session to “get them to think about the ingredients, the make-up of the school” and encourage them to ask about roles in the school and then “widen it out”. However, Maria did acknowledge the logistical problems of this proposal and

concluded that for the class we were working with our structure “worked really, really well” and, imbued with the spirit of potential, “There are all sorts of ways that it could develop”.

To a certain extent I felt that the concept of utopianism was not explicit during the pilot project and that the presentations were focused on critiquing society as opposed to presenting a radical alternative. I proposed asking the pupils to write a letter from their perfect society, potentially including a wide range of pupils in this task from different schools (or even countries). This would aim to focus on the redesign of society and the holistic approach to society that was so important in the theoretical underpinnings of the pilot project. Maria agreed that to a certain extent “we did lose a sense of the redesign”, although all pupils drew conclusions from their research relevant to “building something else”.

In addition to the letter, Maria suggested a map of an alternative planet that pupils could stick ideas on as the project progresses and that would result in a very visual representation of their “design”. Maria explained that there was a lot of scope to draw everything together and discuss how the topics related to each other. We ran out of time for pupils to discuss their ideas together and evaluate them from the focus of their topic. Maria emphasised the potential for more debates within the groups to facilitate the thinking modes referred to in chapter four:

“...it’s about following through [with] that understanding of the world as it is now and understanding of a perfect, or better, society and understanding how everything interweaves...in order to [achieve their ideas for a better society]...there might need to be compromise...you know if they’re going to produce organic food for example...what impact does it have on other areas.”

EfS at Auchencairn Academy

Maria also spoke about EfS in Auchencairn Academy, insightful given her understanding of the pilot project and therefore shared understanding of EfS, as endorsed in this research. Maria didn’t think EfS was being prioritised, despite “pockets of recycling” and “using bikes and garden projects”. Commenting on the nature of EfS prevalent in the school, Maria indicated that there was: not enough focus on EfS “by you [the pupils], for you [the pupils]”; EfS was conceived as “a sort of talk down approach”; sustainability was seen as the three Cs (Climate Change,

Composting and Carbon foot printing); and “they [the pupils] get a little voice out but there is no joined up thinking really.”

Maria emphasised that “right now everybody is so intimidated by the curriculum all they want is to tick boxes”. The potential for CfE to lead to a tick box approach to EfS was highlighted by Maria in which, without innovation, teachers could cover many aspirations of CfE. Speaking about the challenge to implement EfS, Maria explained teachers did not have enough time; the importance of “interpretation of the new Experiences and Outcomes”; and potential risk that teachers would be able to link CfE to what they were previously doing.

The above has presented an overview of Maria’s understanding and approach to the pilot project. Themes that were raised are discussed in chapter seven in terms of the delivery of the pilot project; Maria’s reflections on the teaching requirements and colleagues’ abilities; her approach to the pupils; reflections on evaluation specific to the pilot project; and the status of EfS in the broader curriculum.

6.2.5 Class profile and pupils’ feedback

This section expands on the class profile, as described by Maria, and the class response to the pilot project. The difficulty of evaluating for EfS is a theme returned to in the concluding chapter, contrasting the experience of both pilot projects and the ambition to facilitate authentic pupil feedback. Thus, a brief commentary on the significance of the feedback and interpretation is presented and further analysis of the feedback is addressed in chapter seven, in which the pilot project is contextualised with reference to the original conceptual framework and the policy critique. The section is structured through reference to the different methods used to understand the class profile and facilitate pupil feedback on their understanding and approach to the pilot project. The following headings structure this section: visual presentations of the pilot project; feedback forms on pupils’ attitudes to sustainable development and pilot project; period of evaluation; and emotional and discursive essays.

The evaluation was considered integral to the pilot project. Thus documenting the questions that were formed during the pilot project, to both help the pupils understand the normative nature of the pilot project and to help us understand their approach to the pilot project, is important to share with the reader for a ‘muddy boots and grubby hands’ (Punch, 1986) account of the research.

6.2.5a Visual presentations of the pilot project

The symbolic images designed by the pupils to advertise the “Evening of Visions for Our Future” give an insight into how the pupils interpreted the pilot project; see Figure 6.2 (4). The programme, as presented in Box 6.2 (2), also serves as a good introduction. These images reflect an understanding that the project is about pupils’ voices, optimism about change, and the re-design of a ‘wiser’ society.



*You're invited to an evening of visions and ideas for change
Nibbles and refreshments will be served*



*You're invited to an evening of visions and ideas for change
Nibbles and refreshments will be served*

How should we create a better world?!!!



*You're invited to an evening of visions and ideas for change
Nibbles and refreshments will be served*

How should we create a better world?!!!



*You're invited to an evening of visions and ideas for change
Nibbles and refreshments will be served*

Figure 6.2 (4): Visual presentations, in the form of extracts of posters for community event, reflecting pupil understanding of Auchencairn pilot project

6.2.5b Feedback forms on pupils' attitudes to sustainable development and pilot project

This section draws on two feedback forms: the first, focused on pupils' attitudes to sustainable development and the second, focused on pupils' attitudes to the pilot project. I have summarised broad thematic areas that are insightful into the pupils' approach to sustainable development and the pilot project rather than offer all individual comments. Detailed comments and pie charts collating all pupils' responses are presented in the appendices: 6.2 (4) on the overview of pupils' attitudes to sustainable development, and appendix 6.2 (5) on pupils' attitudes to the pilot project. The significance of this initial feedback form in introducing the class profile and my attempt at asking questions to engage pupils in the rationale of the pilot project is highlighted through contrast with the second pilot project in the following chapter.

Overview of pupils' attitudes to sustainable development

Twenty-four pupils completed the feedback form on attitudes to sustainable development. The feedback on pupils' attitudes to sustainable development was considered an example of useful feedback to engage the pupils in thinking about the rationale for the pilot project as much as conveying an insight into their worldview.

The first question asked whether or not pupils considered a need for change and why. As emphasised in chapter two, it is important to consider peoples' worldview and perceived relevance when engaging in behavioural change and, by corollary, EfS. There was a range of answers to why pupils thought society should change, including: pollution; poverty; the carrying capacity of our planet; the need to consider the future; sexism; and attitudes of greed and disengagement. With the exception of one pupil, who was unsure, all indicated society should change. However, many of the pupils did not provide a detailed response. There were no clear answers that incorporated the need for holistic development in which the relationships between economic, environmental and social concerns were considered as mutually dependent. It would be interesting to have completed the same feedback form at the end of the project.

The following questions focused on change agents: who is responsible to lead the change they would like, and who is more likely to initiate such change. Qualification of government is necessary to understand the pupils' responses, however the question aimed to engage pupils in thinking about their role in society, and the importance of individual and structural change as discussed in chapter two. Most pupils (17)

indicated that it was both the government's and individuals' responsibility to make the change. However, three pupils indicated that government only was responsible, as one pupil wrote "they are in charge of everything and make decisions". The question over who is most likely to initiate change provoked a far more mixed response than the question of responsibility: ten pupils indicated government, seven pupils indicated individuals, and three pupils indicated both. The responses are insightful, potentially indicating a lack of trust that both can work together.

The last couple of questions focused on pupils' levels of concern: whether or not they considered themselves more or less concerned than the government, and more or less concerned than their parents'/guardians' generation. Equal number of pupils indicated that they were more and less concerned about sustainability as the government. The justification of why the pupils felt less concerned were insightful, one indicating a lack of confidence in understanding, two indicating that it is the people in power that can make the changes, and one indicating other areas of interest. Two thirds of pupils indicated that they were more concerned than their parents'/guardians' generation. Reasons for considering their generation as more concerned than their parents'/guardians' generation ranged from: their generation being in a worse situation; their parents' generation creating the problem and not doing anything about it; that it is their future that will be most affected; and that they are being educated differently about the dangers. Reasons for considering their generation as less concerned than their parents'/guardians' generation included a sense that they are not old or knowledgeable enough to be engaged in such issues.

As is evident above, the overview of pupils' attitudes to sustainable development indicates a range of views but also mindsets that potentially influenced their engagement with the pilot project. The majority of pupils expressed an understanding that society needs to change and recognised the importance of engaging with structural and individual issues in addressing sustainable development. It would have been interesting to have completed the same feedback form at the end of the pilot project, and a discussion on level of concern and responsibility for sustainable development to ascertain the influence of the pilot project in meeting the aims of inspiring pupils to engage with sustainable development.

Overview of pupils' attitudes to pilot project

After the launch of the pilot project at the University of St Andrews pupils completed anonymous feedback forms for each session: the introductory lecture; the feedback and discussion session; the focus group discussion; and the research session. The feedback served to indicate the need to clarify issues in class, and to ensure pupils' feedback could contribute to adjusting the introduction of the pilot project for a potential repeat. This feedback was helpful in providing an insight into the classes' profile, in terms of self-reported abilities and levels of engagement.

The first question on the feedback form asked the pupils how interesting they found the lecture. In retrospect, a more neutrally worded question would have been better, such as what did you think of the lecture? Comments on the introductory lecture were positive, indicating pupils were looking forward to participating and had found it thought provoking. However, most of the pupils admitted that they had found the lecture confusing and that the discussion after the lecture had been useful in clarifying expectations. The pupils were asked whether or not they understood the ideas behind the pilot project. However, the pupils were not asked for an explanation and responded with a simple "yes". The few responses expanding on their answers indicated expectations that the pilot project would: involve them in research; value pupil voice; increase their confidence; and encourage them to form ideas about a 'wiser' future. Pupils were asked about the length of the lecture, as an indication of engagement and interest. All pupils responded that it was the right length with one exception. The last question asked pupils for suggestions for improvement. One pupil suggested more interaction and two pupils suggested the use of easier language.

Most pupils indicated that they had found the feedback and discussion session interesting. Twenty one pupils, out of 27, ranked the feedback session as 1 or 2 on a scale 1 to 5 (1 as interesting, 5 as boring). The pupils who provided a qualitative response remarked on the benefits of the session: that it had helped clarify their understanding; that they had enjoyed generating ideas as a class; and that they had enjoyed listening to their classmates' views on different issues.

When providing feedback on the focus group discussion most pupils indicated that they had been engaged; felt the University facilitator had been helpful; and left with an understanding of what to research when returning to school, as evident in appendix 6.2 (5). It is hypothesised that many pupils did not realise that the following questions were included on the back of the feedback forms:

- *What topic did you discuss?*
- *Did you have any disagreements in your group and why?*
- *What would have made this session better?*

The majority of the pupils that responded, ten, explained they did not have disagreements, with two exceptions referring to renewable energy and Katie Price. It would have been interesting to ask a similar question at the end of the pilot project to ascertain the level of debate in the class. Of the pupils that provided suggestions for improving the focus group, most said that more time would have been beneficial. This supported the view that the pupils were eager to participate.

Most pupils indicated that they had enjoyed the research session and that they were happy with the level of support provided. Few pupils suggested ideas for improvement. Suggestions included more pointers for research, the student facilitator to help more, and more time. In retrospect, the question on whether or not any views had changed as a result of the introduction to the pilot project was asked too prematurely. Most pupils commented that their views had not changed with the following exception: “It has made me think more critically about the way society is run and opened my eyes to what really goes on”. However, a couple of pupils provided supporting comments for the pilot project, stating their interest in being involved and that the launch had helped clarify what they would be working on at school.

The overall feedback, discussed above, indicates pupils were supportive at the beginning of the pilot project and had appropriate levels of understanding on the aims of the pilot project. The University facilitators’ feedback which expands on the class profile in section 6.2.6, supports high levels of enthusiasm and interest in participating in the pilot project.

6.2.5c Period of evaluation

This section continues to present the pupils’ approach to the pilot project, through reference to the period of evaluation on pupil understanding of, and support for, the pilot project after completion. To my surprise, I took the class alone which influenced the data gathering as engaging 30 pupils was different to having small focus groups, as originally planned. I had planned to engage the pupils in reflecting on the meaning of EfS, the status of EfS in their school, and their support for the pilot project. However, I was unaccustomed to taking the class alone and therefore ran out of time to hand

out the feedback form I had prepared. I had nine voice recorders and a video camera and asked the pupils to take turns interviewing each other on various themes: the MSP's visit; the community event; their learning experience; and the challenges and opportunities encountered during the pilot project. Feedback forms and stickers to indicate the pupils' answers were circulated with the following questions:

1. Did you change your way of thinking on any issue?
2. Were you happy with your final presentation?
3. Did the pilot project encourage skills to create a wiser world?
4. Did the pilot project encourage you to think about society in the future?
5. Were you satisfied with the visit from your MSP?

It was hoped that these questions would be reflected and expanded upon in the peer interviews. Other feedback forms prepared but not used, due to time constraints, focused on the challenges of the pilot project. The peer interviews tended not to go into any depth. There was also a risk that negative comments were not recorded or potentially deleted. However, it is important to value pupils' autonomy in providing feedback. The relationship of trust and understanding developed through my participation in the classroom increased my confidence in the validity of the feedback, in addition to helping me ask appropriate questions about the pilot project. The evaluation aimed to encourage the pupils to discuss and define the pilot project together and engage the pupils in research, although more discussion on interviews would have been beneficial. The recordings indicated that the majority of the class contributed to the evaluation, as I recognised voices. I was unsure whether or not the pupils perceived the recordings as anonymous. The feedback forms were completed anonymously. The recordings were coded under the following themes, returned to as sub-headings to present the overview of the period of evaluation:

- Interest, support and challenges
- Returning to the theoretical underpinnings
- The project outside the classroom
- The MSP's visit
- Additional skills
- Originality
- Favourite aspects and ideas for improvement

Interest, support and challenges

My initial concern as I transcribed the transcripts was to discover whether or not the pupils had enjoyed the pilot project; had been engaged; and whether or not they would like to do it again. Several of the pupils said that they had enjoyed it. A standard question was “how did you find the project?” which elicited the following answers:

“Interesting, motivating and quite hard. It was very challenging but it was worth it” (Luella)

“I found it really inspiring to help the world and emm...it was good to research what the world is like at the moment” (Annie)

“I think it went well because everyone enjoyed the presentations and I learnt a lot about different aspects of the world that I didn’t know” (May)

There were several examples of the pupils expressing a growing interest in their topic and wanting to find out more. For example, I asked May who described being “clueless as to...what you wanted us to end with” what made her click: “Because of the topic I chose...I was very committed to the topic I chose and because of that I just kinda put my head down and got it done”. Kirsty asked Annie if she would like to no more about her topic, and Annie explained: “yes, I would, I’d like to see how far it stretches and how...like my topic was depression and I’d like to see how it varies and how it can be treated and if there is more medicine that can go towards it...”. Another overlapping question was asked by Jade who asked Rebecca if she would like to do the project again: “I definitely would but I’d like...you know, a new topic or the same topic...just longer time to find out about stuff and that”.

The fact that there was no interviews of pupils explaining that it was boring or a waste of time indicated the overall feeling in the class was supportive. However, several pupils described the pilot project as challenging but few expanded on their reasons. Louise appeared to struggle with understanding tasks and concepts more than other pupils in the class. Rebecca explained that she felt challenged “because we were taking a new project that had never been done before and so we had to work hard to achieve our final goal”. Adam explained, “The hardest challenge for me was the presentation because it doesn’t come naturally to anyone apart from Michael...yeah, managing to stand up and put a point across to a lot of people who were going to ask you questions on that was difficult”.

Several pupils spoke about being confused at the start and then gradually understanding the pilot project. I wished I had been able to capture this progression in

their reflective workbooks. I discussed this process with May who admitted that “at the start I did not know what on earth we were doing but as we neared the end I felt a bit better with knowing what to do and it all worked very well”. It was clear that the presentations to the community consolidated pupils’ understanding of the pilot project. This is reflected in the extract of a conversation; see Box 6.2 (1), with two pupils that I identified as initially struggling to understand and engage with the pilot project, in part due to their level of exposure to the case for change. Maria had compiled a short clip introducing the case for change with slides and music to show to the audience before pupils presented.

Box 6.2 (1): Extract of conversation with pupils on understanding of the pilot project, during period of evaluation after the completion of Auchencairn pilot project

Me: *Did you think they were good [the presentations] three weeks beforehand?*

May: *No, considering I didn't have a clue what like you were on about, no offence. When we first went up and then coming out of it was like a really good presentation.....*

Me: *what happened?*

Luella: *We realised it was important. The more you read into it, the more you researched about it, it got easier and everything just came together...It was really interesting.*

Me: *Do you think you would have got it without the main presentation at the end or do you think the class would have...*

May: *No, I think the presentations that you and Miss McLay [Maria] did..beforehand..I think that like helped...put everything together...like our parents and that...thinking about what we were going to go on about...cause if we hadn't had that and we just went on doing our presentations we would have been like...what..*

Me: *Do you think it needed the presentation?*

Luella: *Yeah, I think it did, it was something to look forward to at the end of it..*

May: *At the start of the project I didn't like it at all. Yeah, I couldn't be bothered.*

Me: *Why didn't you like it?*

May: *I didn't understand it...I was just like, why are we doing this? If you don't understand something you don't like it...it's not going to help us, but as we got more and more into it...It was like...good.*

Returning to the theoretical underpinnings

The general feeling of support for the pilot project provided a good foundation for EfS, in terms of pupils' propensity to think about their role in society and their own understanding of sustainable development. I would like to have included whether or not pupils spoke about responsibility in the evaluation. Adam mentioned that he had been influenced to engage in behavioural change after another group's presentation: "...after hearing about the food group's presentation I spoke to my family and we now have a food waste bin and we recycle whatever we can". Without the time constraints there was potential to reflect on the meaning of EfS and the necessary conditions and pedagogy for such learning to occur. Broader questions on the role of the younger generation and their perspective on sustainable development were not discussed, only one pupil asked a relevant question: "How do you think you will look at society from now on?", eliciting the following response, "I see society as a very...with a lot of corruption in it and that there is a lot of things that need to be changed and that we need to...the younger generation...need to stand up and speak their voice".

The anonymous feedback form was passed around the class with the question "did you change your way of thinking on any issue?" and stickers to indicate answers as either yes or no. Out of the nineteen pupils who answered, only one indicated that she/he had not changed her/his thinking on any issue.

Another feedback form questioned "Did the pilot project encourage you to think about society in the future?" and stickers to indicate answers as either yes or no. All 7 pupils that answered indicated that it had made them think about the future. The question on whether or not the pilot project provoked thought about the future was asked just once in the transcripts, which elicited the following: "Yes it has - it has taught me to be more careful how we treat the future and how we approach it". I feel that this could have been a set answer given the tone of the interview. Given the difficulty in responding to such a question, I concluded that it would have been valuable to draw on reflective essays or have asked the pupils to discuss the potential benefits of the pilot project, the disadvantages and key characteristics of the pilot project. However, it is important to note, that all the presentations focused on a message for the future. This indicated the pilot project was clearly designed to enable "future thinking".

Similarly my initial plan to evaluate for system thinking is difficult to evidence. However, there were signs that pupils had an appreciation of systems thinking around their topics. This is demonstrated when Gill asked Kirsty "Did it surprise you how much

you learnt?”, and she responded, “Yes, it did...I didn’t know that the topic was that in-depth and that there were so many issues surrounding it”. The pupils did not make reference to their mind maps during the period of evaluation that showed signs of systems thinking.

I had also intended to evaluate whether or not the pupils had felt challenged by others in the class on issues related to values and priorities. It would have been helpful if I had been more explicit in engaging pupils with reflecting on the appropriateness of the pedagogy; the potential for peer learning; and thoughts on other groups’ presentations. The following conversation indicates potential for peer learning as the pupil recalls another group’s presentation; see Box 6.2 (2).

Box 6.2 (2): Extract of conversation on peer learning during period of evaluation after completion of Auchencairn pilot project

Michael: *OK Philip do you think you were enlightened in certain aspects of the world from this marvellous presentation of ours?*

Adam: *I think I certainly was, there were some things that I already knew about but there were also lots of things that lots of us didn’t know about*

Michael: *such as?*

Adam: *such as nuclear...the food group..the amount of waste is surprising these sorts of things*

Michael: *how much waste is actually wasted?*

Adam: *Well, I’m not sure of the exact figures but it was something like a third of your shopping....*

I believed that there should have been more class time for debate. I asked Adam whether or not he felt that they debated much in their group. Adam explained:

“I think sometimes I did, particularly with Maria [a fellow pupil] because of her prison views and stuff because I differed from that...but I think we all kind of agreed with each other because we were just starting to tell each other of what we thought and we were like...yeah, you are completely right...”

I then asked Adam if he thought there would have been more disagreement if the project went on: whether or not there would have been more opportunities to start really challenging what people were thinking. Adam replied, “I think we all share similar views at the moment, maybe if it went on for longer and we explored it more we would come across more differences”.

The project outside the classroom

Whether or not the pilot project was being discussed outside the classroom was hypothesised to indicate interest and the level of engagement. As the extract of the conversation in Box 6.2 (3) indicates, there were slight tensions between the two English classes.

Box 6.2 (3): Extract of conversation on tension between English classes, arising from pilot project, during period of evaluation after the completion of Auchencairn pilot project

Me: how was it with the other English class: did you discuss much about what was going on or was there a bit of a tension?

May: The other English class didn't find it fair that we got to do the project when they were stuck doing critical essays...

Luella: they were like...obviously jealous of the fact that we get this great opportunity

Me: were some of the people in the class jealous that they were doing stuff that would prepare them for the exams?

May: I think they find it more tedious doing that than doing a project. Like if we ever complained about doing the project they were like oh we'd rather be doing that than a critical essay.

The only references to engagement with family and friends as the pupils interviewed each other was from Adam and James. As already mentioned Adam said he spoke to his family about food waste and recycling. James explained, "I didn't really talk about the project with my friends or family and I didn't let my mum and dad come along to the night". However, the presence of family members at the final event indicates that James' lack of engagement with his parents on the pilot project was not representative. The extent to which pupils discussed the pilot project outside the classroom, in what way, and to what affect, merited more research.

The MSP's visit

I encouraged reflection about the MSP's visit as I knew the class had strong views on this and it also reinforced the concern with political engagement running throughout the pilot project. Michael went around the class questioning pupils about the MSP's visit, which mainly elicited negative feedback; see Box 6.2 (4). As is demonstrated, the pupils felt threatened and defensive as a response to the way in which she challenged their views.

Box 6.2 (4): Pupil feedback on MSP's visit during period of evaluation after the completion of Auchencairn pilot project

"she was rather rude and self-obsessed and I feel she only came to talk about herself and not to listen to us...she thought it would be a meeting in which she would just talk and talk and we'd have to listen to her but instead it was the other way around and I think that because of that she wasn't very happy about it".

"I agree I felt that she (tended to) oppose everything we said basically and she didn't really talk to us at all..."
"yeah"

"she was just like I know what I want and I know what I believe and you can all just go away"

"yeah, you're right"

"I think she felt as if she was coming in to get supporters"

"What do you think of the MSP's visit? No swear words"

"I don't think I can answer this question".

And "did you think the expectation in your mind were met?"

"yes, minus the visit from our local MSP"

"I feel [the MSP] was really, really rude...she bruised our confidence in some ways...with the inappropriate questions that she was saying like especially...in the justice group..."

Speaking of the MSP's visit, Gill said that she felt "intimidated by her authority". Louise said that she enjoyed the visit from the MSP, commenting "she asked good questions". However, Louise had explained that she struggled to understand the pilot project and her performance throughout the pilot project indicated that she may have struggled more than many of the others to understand concepts and tasks. Both Maria and I felt that the MSP's visit had a significant influence on the class in terms of an emerging class solidarity and eagerness for their views to be valued and heard. However, this is not apparent from the pupils' feedback. The practicalities of running the pilot project and necessities to consider were highlighted during the MSP's visit. In light of her engagement with the pupils, I appreciated that more briefing was required in order for her to appreciate her expected role: listening to the pupils and encouraging engagement with politics.

Additional skills

Evaluation could have been focused on more tangible skills and mindsets. This was not my original focus. However, in retrospect, it could have reinforced the value of the pilot project. For example, when questioned, Simon explained that, "I gained team working skills, research skills, and the skills of presenting in front of a daunting audience". This echoes many of the unrecorded discussions I had with other pupils in

the class, and Maria's and my observations of pupils demonstrating such skills. An increase in confidence also featured in the evaluation: as Annie explained, "I think that my confidence really gained from this experience. At the beginning of it I would have thought that I would never have stood up in front of an audience and spoken about it but I did". Through informal discussions I had with pupils, team-building skills were reported as an important learning outcome by several of the pupils. However, the experience of group work varied as demonstrated in the following quotes:

"the process was really difficult and kind of strenuous because I didn't have a good functioning team"

"I think in my group we all helped each other out...certain aspects we were like, you know, can you read this and see what you think so we were like exchanging ideas and views and telling each other what we thought of our personal views so we could add them in as well..."

Originality

I asked Michael to interview his classmates on whether or not they thought the pilot project was different to what was normally done in schools. This question was intended to engage pupils in thinking about the essence of the pilot project. More discussion would have been beneficial, for example, asking the pupils if they were engaged with learning encompassing EfS elsewhere in the curriculum, and their understanding and support for such education. Many pupils expressed that it was different, including an explanation that there were "no academical awards involved" (James); that it "was really good to have a different point of view on things and find out what everyone else thought" (Phoebe); and that,

"the project was definitely different from what we normally do and it was really nice to see what other things happen in the world...like outside school...I think it was giving us a chance to voice our opinion where as in other [subjects] it has been teachers telling us what to do. We were given a lot of free roam and I think overall it was very well thought out and educative (Adam)".

Michael explained that it was different, "as it helped me to understand the learnings and contextualise it".

Favourite aspects and ideas for improvement

Pupils were asked to question each other on their favourite aspect and ideas for improvement. Going to St Andrews was mentioned by three pupils as the favourite aspect of the pilot project, explained in the following quotes: “because it was nice to see what the University was like and what it was like in real life and you found out about what it was all about...the project” (Gill) and “because you got to work as a team in a different environment to the school” (Rebecca).

Despite my request, few pupils asked other pupils what they would change about the project. This was an area that I would have liked to have focused on more. However, a few suggestions emerged from the recorded conversations, including having more time to perfect the final presentation, not doing so many evaluation sheets, and time for more discussion.

This section on the period of evaluation enables acknowledgement of: the themes considered integral to the pilot project, drawn upon in the discussion and concluding chapter, including a focus on pupils’ voices, and the way in which I adapted evaluation to the best of my abilities at the time of running the pilot project and reflected in retrospect on additional themes that could have been investigated to improve the evaluation. Reflections on improving the evaluation, for example, clarifying and discussing the way in which the pilot project linked to the theoretical underpinnings and ideas for a second pilot project, are included under my perspective.

6.2.5d Emotional and discursive essays

The response to two assignments as part of the pupils’ Higher English class, given after the completion of the pilot project, indicates that the pilot project was a significant experience for several of the pupils. The emotional and discursive essays were referred to in the teacher’s feedback. The pupils were asked to write about an emotional experience and a discursive essay. It was clear that many of the essays drew on the pilot project.

The emotional essays, included in appendix 6.2 (6), referred to being challenged, improved team working abilities; and the sense of pride felt after the presentations. This was consistent with conversations held immediately after the presentation to the community with pupils. Extracts from the essays are presented in Box 6.2 (5)

Box 6.2 (5): Extracts from emotional essays written as part of the Higher English class after the completion of Auchencairn pilot project

'I was remembering all the hard work and seemingly endless hours of research we had put into this. It almost seemed justice for the sleepless nights some of us had endured, that we could alter, however small, the world and have our views heard on how we feel the world should develop and continue to advance towards a green future. The talk almost felt natural – a strange concept for a shy boy!....The heartfelt and mutual congratulations were shared amongst us, with hugs and handshakes visible for all to see. Then they realised, how much this project had meant to us' (Rowan)

'I felt positive; I had entered into a different world of thinking in which I was welcomed with open arms. The voice I heard was mine; the words I spoke were mine. I was no longer trapped in that bubble of insecurity, overpowering me, forcing me to think negatively' (Sophie)

'The people of the crowd were listening to me, and appreciated my opinion, and that meant a lot to me...I felt stronger from the inside, less scared to put across my opinion, no matter how obscure it may be...That's the thing with phobias, they're completely irrational but to the person that has them, they are something very real and very scary. Relief spread through me chasing away the fear and panic. Only as I began to relax did I realise how tense I had been. It had been without doubt the most stressful, terrifying experience of my life and yet I had done it. It was over. Even though I had managed something that at the beginning of the evening I had thought to be impossible, I knew that would not be the last time I would feel like this. However, it would hopefully make it somewhat easier to deal with' (Zoe)

Several pupils wrote very engaging discursive essays on the topics they, or other groups, had researched during the pilot project. The essays covered many themes that had been addressed during the pilot project, including for example, "The Media and Methods"; the influence of celebrities; "Nuclear - the power of the future?"; "Why did we go to war with Iraq?"; "Is renewable worth the investment?"; "Should there be a ban on television adverts for children?"; "Would you like fries with that? (on healthy/unhealthy eating); "Should we convert our society to organics?"; and "An act of kindness?" (a discussion on the criminal justice system).

6.2.6 Critical friends

This section briefly draws on critical friends' feedback on the pilot project: the University facilitators' feedback; friends who had attended the community event; a Times Educational Supplement overview of the pilot project; and parental feedback.

The University facilitators, acting as critical friends, were asked to make a note of pupil engagement and attitudes towards the pilot project during the launch. This was an important area given my growing interest in mutual learning between the pupils and University students. The University facilitators' feedback contributes to an understanding of the class profile. The University facilitators' feedback is included in appendix 6.2 (7), briefly overviewed below. I reflect on the appropriateness of the questions used for facilitator feedback and potential for more appropriate questions to have enhanced understanding through evaluation. These reflections could have

potentially informed evaluation of the second pilot project, during the project rather than the start, to explicitly reconnect with how we were engaging with the theoretical underpinnings. As demonstrated in part three, due to problems arising with delivery and the quality of pupils' work we did not return to St Andrews to work with University facilitators, at the end of the second pilot project, as was the original aspiration. The University facilitators' feedback supports my own impression of the class as engaged and enthusiastic about taking part in the pilot project. One University facilitator's comment on whether or not they knew about future plans suggests I should have asked other facilitators to help in ensuring an understanding of the pilot project. Further research was required on whether or not the pupils were more motivated with ideas for improvement or addressing current problems, an area I discussed with the University facilitators. Through working with pupils, I found it was easiest to engage pupils by focusing on the problems. In retrospect, to adequately examine utopianism, a conversation with the pupils about their education, and specifically their understanding of EfS would have been enlightening. A group that excelled, demonstrating a clear understanding of the project, was the food group. The feedback from Jack, working with the food group, indicated a clear focus on the ideal solution. In order to prepare the pupils to start their research, positive alternatives should have featured in the conversations. The facilitators' feedback highlighted that the focus of the groups' discussions ranged from the personal to the national with less of a focus on the global scale. The potential of the facilitators' feedback to introduce me to the groups and thus be able to capitalise on their interests was appreciated afterwards. It would have been very useful if the pupils had written a brief personal statement before coming to St Andrews to ensure they were working under a topic heading that interested them. All the facilitators felt that they benefited the groups' learning experiences. An indication from the facilitators of how well prepared the groups were and what they struggled to understand would have been very beneficial for practical purposes, and raising issues around EfS. This supports later comments from Maria that pupils would potentially benefit from mentoring. All the facilitators reported that they had enjoyed the discussion. Several facilitators reported that it had been challenging but that they had enjoyed the experience of working with this age group, indicating potential for mutual and "real world" learning. I could have asked about opportunities and challenges for EfS that they foresaw especially as all facilitators

were engaged with the Sustainable Development programme at the University of St Andrews, with one exception.

Immediately after the pilot project I held recorded conversations with friends who had attended the pupils' presentations to the community and we discussed the theoretical underpinnings of the pilot project. These conversations raised issues that overlapped with the discussions EfS has provoked in academia, presented in section 4.4. The conversations were enlightening: forcing me to appreciate and question my underlying assumptions about education and recognise that these were not to be taken as a given. Three key issues were raised that should be addressed in clarifying my understanding of EfS, including concerns: a concern over whether the pupils were too young to focus on their worldview and the balance between learning and teaching; the transmission of wrong information and controversial values; and the extent to which the pupils were really engaged with transformative learning. I disagreed that the pupils were too young, and believe that pupils of any age should be encouraged to engage with values and priorities. If some pupils were being strongly influenced by their parents as suggested, I considered that this reinforced the value of the project, rather than being perceived as a problem: the project was aimed to encourage pupils to question and research to inform and justify their views, ideally in preparation for debate. Another concern was whether or not a platform should be given to wrong information and controversial values where class members have a great influence. In response to this comment, I highlighted that critical literacy is a key skill associated with English in CfE and pupils are thus encouraged to consider the source of research, facts, and if appropriate opinions. Indeed, again I considered it important to provide opportunities to critically challenge controversial beliefs, and if pupils are unwilling the teacher should help facilitate such a discussion. Researching the extent to which the pupils were really engaged with transformative learning is out with the scope of this research, in terms of the impact of the pilot project after they leave school. However, the pilot project was built on conditions to engage pupils with a more encompassing and compassionate identity and engage pupils in developing their understanding of sustainable development. The evaluation of the pilot project included an attempt to encourage pupil reflection on the benefits of the pilot project, and as such the extent they were engaged with transformative change.

As noted above a reporter from the Times Educational Supplement (TES) visited the school during the MSP's visit. The reporter spoke to Maria and a group of

pupils, alone and with me, to inform his report. Not only was this a good experience for the pupils in communication but insightful for me to understand an outsider's view of the pilot project. In terms of empowerment and pupils' voices, the write up in the TES of the pilot project highlighted the potential for misreporting and making value judgements without understanding the pupils' views. For example, the TES report refers to the MSP's presence on BBC 4's Any Questions addressing voting rights for prisoners: 'The radio audience was broadly in favour of these, while the school class had been almost unanimously against'. This had not been the case, however, pupils had felt daunted disagreeing with the MSP after a response to one of the pupil's presentations. The TES report continues, "Young people tend to be conservative", the Minister commented at the school. This view was confirmed by a survey of their research for a new cross-sectorial project on sustainable futures. One girl advocated harsher, American-style prisons in Scotland, while a boy wanted to prosecute girls for under-age sex, as well as boys, with the class largely in agreement'. The view that young people are conservative based on one pupil's view of prisons was a rather controversial broad statement, and the argument about under age sex was one of gender equality. The TES report refers to the pilot project as having 'stoked passions in the pupils', highlighting the level of pupil support for the pilot project. It is noteworthy that the report drew on a pupil's comment that indicates an understanding, and appreciation, of the pedagogy: "Normally in school it's very structured" says Zoe Rankin, "sometimes you know what you want to do, but the structure does not let you. With this project, we got to look into what interested us". Another pupil quoted referred to the benefits of doing research at the University of St Andrews and the problem of accessing information in the school due to the Council blocking certain sites. This is an important point to consider when calling to develop the four capacities as endorsed in CfE.

The research was not able to focus strongly on parental feedback due to Maria's and my own time constraints, despite recognition of the importance of this area. As already acknowledged, there was potential to evaluate whether or not pupils had spoken about the project outside of school: whether or not this had been supportive; led to discussions; and engaged others in thinking about sustainable development. Maria reported that "parent feedback was incredibly positive and it was positive because the kids were engaged in a process of learning on so many different levels" and that parents were happy "with the enthusiasm; with the task, with the

research, they were shocked with the independent drive”. However, one parent expressed concerns over whether or not the pilot project was part of the Higher English course and another parent expressed concerns over the political nature of the pilot project. Only one parent returned the feedback form sent to all parents/guardians after the completion of the pilot project, see appendix 6.2(8).

6.2.7 My perspective

This short section presents my perspective of the pilot project, comprising a brief acknowledgement of how I perceived my position in the class and my feelings on finishing the pilot project; ideas that were not acted upon; how the pilot project challenged my understanding of the research questions; and my reflections to inform a potential second pilot project.

My position in the classroom increased my confidence in the reliability of the feedback discussed above. I was present most periods: Maria delivered but I acted as a classroom assistant. The experience of working alongside Maria and the pupils resulted in an appreciation of both the potential and the difficulty in evaluating and fostering the thinking modes: system thinking, future thinking, an emphasis on values and priorities and action competency. Reference to the thinking modes as an analytical framework for EfS is returned to in section 7.4.2.

On finishing the pilot project I felt really proud of what we had achieved and excited about the potential to develop the project. Table 6.2 (1) presents a broad overview of the impact of the theoretical underpinnings during the pilot project, analysed in chapter seven.

Table 6.2 (1): Broad overview of the impact of the theoretical underpinnings in first pilot project

Thinking mode	Thinking mode in practice
Systems thinking	The final presentation engaged with a broad and holistic vision of society. There was potential to include more debate that would have supported perceiving and discussing connections between topics. Although Maria and I perceived engagement with environmental, social and economic concerns and also different focuses on individual and structural change, evidence to convey this engagement did not feature strongly in the evaluation.
Future thinking	All groups presented future message for their community. Many pupils indicated feelings of empowerment after the final presentations.
An emphasis on values and priorities	Maria commented that the pedagogy had resulted in learning that would not be forgotten. Many pupils focused on unintended consequences of actions constituting unsustainable development and proposed alternative ideas.
Action competency	It was clear that generic skills had developed during the pilot project. Many pupils referred to increased confidence to express their views. Maria commented that the pilot project had “demystified sustainable development” as pupils perceived relevance and took ownership over ideas. Whether or not the pupils would take action based on their views was not researched.

The pilot project had increased my confidence in developing a practical strategy for EfS, underpinned by the thinking modes discussed in chapter four, and led to excitement over facilitating interdisciplinary learning and a learning experience for the wider school community. The pupils' support was demonstrated at the "Evening of Visions for Our Future" when I had my 'delivery', rather than 'researcher', hat on. After the presentations, several of the pupils told me how proud they felt. I was aware that sharing and challenging views as a class was not developed due to time restrictions. However, the learning experience in terms of improved teamwork, presentation skills and ability to structure a presentation was noted in my reflective diary. Several parents thanked me, saying that it had not only been a wonderful presentation but the pupils had clearly demonstrated a range of skills.

Preparation for the community event stimulated many ideas that did not materialise due to time. For example, we could have asked pupils to put together a life timeline representing their worldview and interests. More focus on education, knowledge and pedagogy was not possible, due to time constraints. However, in order to initiate interest in different approaches to education I asked a range of University students from different countries to write to the pupils about their experiences of secondary schools. The very personal responses raised several themes: for example, the impact of poverty and no books and therefore a different attitude towards education as a privilege not a right; the significance of critical thinking and democracy; gender separation; the influence of teachers; and the balance between individual development and conforming to the ideas of society. Discussing the University students' essays could have benefited the pilot project through engaging pupils in reflecting on how they approach their education and their understanding of EfS, therefore increasing their engagement and ownership over the framing of the pilot project.

The experience of working in the classroom challenged my original understanding of my research questions which were reformulated through considering what had been gained through the 'field' experience, as outlined in Figure 3(1), *Influences on, and direction of changes, through the research process*. Immediately after the completion of the pilot project, I printed transcripts of the presentations and coded them with reference to the thinking modes. In the final re-writes of the thesis, I wish to acknowledge the possible alternative direction for the pilot project write up, one that focused on judging the extent to which individual pupils had engaged with the

thinking modes. I concluded that the content of the presentations were a manifestation of pupil voice and not as an assessment against set criteria in this pilot project. Thus the write up of the pilot project reflects my ambition to focus on the pupils' and teacher's feedback on the pilot project, including their interpretation of the pilot project, rather than a focus on the quality of pupils' work. Deeper reflection on the presence of the theoretical underpinnings and suggestions for the conceptual framework to be more explicit in the evaluation are included in the final chapter, with the benefit of hindsight. On completion, I was keen to encourage pupils to reflect on whether or not the learning experience had given them and their classmates an appropriate learning experience to develop these thinking modes. With the commitment to ensure the evaluation was integral to the pilot project, a key question became: how do we appropriately evaluate EfS? what do we evaluate for and what methods are appropriate? Having developed a model for EfS, I hoped that a second pilot project would enable me to focus more on, and improve, the evaluation.

On leaving the classroom, I reflected on what had worked well in preparation for a potential repeat. I identified areas that I hypothesised would contribute to an engaging learning experience for pupils and to good research, based on the experience of the pilot project at Auchencairn Academy; see Table 6.2(3).

Table 6.2 (3): Reflections on Auchencairn pilot project to inform a potential second pilot project

Aspect	First Pilot Project	Plan for Second pilot project
Pupil led learning	This was key to the success of the project, made possible via the teacher's ability to guide and question pupils on progress, future plans, and ensure understanding.	Emphasise the importance of pupil led learning to potential teachers as integral to the pilot project. The resources developed during the first pilot project should be discussed with teachers interested in a second pilot project, to support the delivery and therefore enable a focus on deeper evaluation.
Reflection	Informal reflection, see above, was present in terms of: ensuring pupil understanding; showing pupils their presentations and asking them to think about ways to improve them; and the various class recaps on rationale for the pilot project, progress and understanding. However, there was more potential to engage pupils in reflection suitable for my PhD, more "in-depth" reflection, perhaps using mentors.	Run a session on reflective writing. The difficulty in written reflection highlighted the potential need to build this into the pilot project, with due consideration for skill development. Thus, ensure time is built in for individual reflection and group reflection. Plan to engage pupils in more structured reflection on EfS and link this to the thinking modes discussed in chapter four.
Teacher's approach to class	The teacher's knowledge and faith in the class was considered key to the pilot project. The list of names and photos of pupils given to me by the teacher improved my ability to communicate with pupils.	Must ensure the teacher knows the class's abilities and interests to adjust the model developed in the Auchencairn pilot project to suit the class. Information on the pupils' interests, in the form of a short bio, could be beneficial: to help know the pupils and be able to help highlight the relevance of the pilot project to their own interests. If I am to work in the classroom, would request a list of names and photos.
Number of teachers	The project was designed and delivered by Maria and myself. We both perceived potential for interdisciplinary work and the workload was substantial for one teacher.	Encourage more teachers to participate, as there are many opportunities for interdisciplinary work and the workload substantial. Additionally involving other teachers could improve the ability to articulate the project in the language of teachers, including opportunities, challenges, and ideas for improvement.
Outside engagement	The outside engagement helped structure the project. The research at University served as a great starting point for pupils to work more independently as they could refer to their mind maps throughout the project. The MSP's visit was an important focal point for discussion. The community event was key in providing structure and "empowering" the pupils by giving them a stage to share their views.	The second pilot project could draw more on outsider engagement to encourage and provide opportunities for pupils to do their own research and develop a range of communication and research skills. This would help conceive the project as working "in the real world". There may be potential to interest University students to mentor the school pupils. It would be good to repeat the community event, providing more time to discuss the audience's feedback, including parental feedback.
Assessment and evaluation	We focused on both encouraging the pupils to evaluate the pilot project and the teacher and me evaluating the pupils' progress. The presentations to the class and the final presentation encouraged the pupils to take the class seriously, a potential concern without formal assessment. Maria spoke about the way in which generic skills developed during the pilot project, and assessments in the form of emotional and discursive essays contributed to Higher English class. We did not return to the learning objectives as discussed with the class at the start of the pilot project, due to time constraints.	More time for pupils to reflect on how they met their intended learning objectives would have been beneficial. Suggest formalising peer assessment and self-assessment, with a focus on evidence on meeting broad aims and generic skills.

Table 6.2 (3): Continued

Aspect	First Pilot Project	Plan for Second pilot project
More focus on appropriate research design for PhD	<p>The focus of the first pilot project was:</p> <ul style="list-style-type: none"> -translating the theoretical underpinnings into practice in the classroom. -developing an understanding of the teacher's response to, and understanding of, the pilot project including challenges and opportunities. -an initial investigation into how to evaluate the project, including class profile in terms of propensity to engage and understanding of how the pupils perceived the project. <p>Basic evaluation (in the form of recaps with class and discussions with Maria) to ensure the pupils were gaining from the experience was key to the delivery.</p>	<p>Collect more in-depth views and explanations on a number of areas, for example:</p> <p>pupils' interests and expectations before the project started, including the benefits and challenges; more in-depth discussions about how pupils met their intended learning objectives; and pupils' comments on whether or not they found the work of their peers interesting and relevant.</p> <p>Would like to ensure pupils feel involved as co-researchers and factor in time to discuss the evaluation, analysis, and collated feedback.</p> <p>I would have liked to have engaged more, through discussions with pupils, with the theoretical underpinnings (design, utopianism and the four thinking modes) to analyse and evaluate the pilot project.</p>

Part Three: Pilot Project Two: Torr High

The second pilot project was run in Torr High, an area of high deprivation in Scotland characterised with few opportunities for youth both at and post school. Pilot project two ran throughout the academic year with a “Community Involvement” class of 43 S5 and S6 pupils (approx age: 16/17) for one or two hours per week. The pilot project at Torr High was expected to build on the Auchencairn Academy project, in terms of facilitating pupils to develop and share their aspirations for a ‘wiser’ future. Instead of sharing pupils’ views via a final presentation, we planned that the groups would make documentaries based on similar guidance given, and structure developed, during the first pilot project. As discussed below, the project did not result in the completion of original expectations. Part three consists of an overview of preparation and piloting: *initial preparation with teacher*, section 6.3.1; and *introduction to the implementation of Torr pilot project*, section 6.3.2, with reference to the teaching staff, class background and key worksheets. *The teachers’ perspective: the opportunities and challenges*, section 6.3.3, is then structured with reference to themes that emerged in the transcripts of conversations with Simon. The pupil profile and perspective is then discussed (section 6.3.4), including pupils’ attitudes to sustainable development and the pilot projects; reflections on group progress; responses to feedback forms; and my informal discussions with pupils. As with the last pilot project, the concluding section comprises of my perspective.

The starting point for the pilot projects were very similar, but as emphasised in the following documentation of practice, the resultant delivery was very different. After the lessons learnt in pilot project one, I had clearer plans for how to successfully run the second pilot project. However, paradoxically the second pilot project developed in a less structured manner than the first one because of teacher and school aspects. One striking difference is the absence of presentations and evidence of pupils’ work completed during the second pilot project. Thus the second pilot project resulted in deep reflection on the nature of EfS and my role as an action researcher within the context of different schools and teaching styles. Despite the positive feedback from Simon included in the following write up, I was concerned about the continuation of this project. Although I asked Simon several times during the pilot project if he thought we should wind up, this was not part of my formalised research. I asked this question because I was worried that pupils were not benefiting due to the confusing delivery of

the second pilot project. Indeed the write up of this pilot project is far harder than the first, as I hold a desire to both respect the professional integrity of the teacher but also adequately address the challenges encountered during the pilot project. The write up relies on my notes, my reflective diary and recordings of conversations, in addition to the methods detailed.

Throughout the pilot project I respected the professional integrity of the teacher, in that he would put the pupils' learning above the involvement in my research. Indeed, my influence over classroom delivery was far stronger in the first pilot project. Adaptive planning resulted in modifying the original plan for group documentaries, when it became clear these could not take place, and to focus on external visitors to enable learning within the project.

The evaluation, originally designed to be integral to the pilot project, was challenging in terms of teacher reflection and ensuring pupils' feedback informed the delivery of the pilot project. Time for evaluation was limited as frequently the meetings with Simon to reflect and plan were postponed or cancelled. In an attempt to formalise our reflections, two abstracts for conferences were written and accepted, see appendix 6.3 (1). Working together towards an 'academic output' had potential to guide our reflection on, and develop theoretical sensitivity to, the underpinning theory and how well we were translating this into practice. However, due to a range of factors, as discussed below, the conferences were not attended. There were additional pressures due to a NGO continuing aspects, or taking ownership, of the pilot project, as discussed under my personal reflections, section 6.3.5.

As evident in the final write up, the final discussion with Simon was not as neat as the final discussion with Maria. The presentation of Simon's perspective contains conflicting views on progress, at times conflicting with my perspective; and reflection on challenges; and the need for structure. Thus the second pilot project presents Simon's voice during the pilot project and the potential challenges of EfS delivery, rather than a polished reflection at the end.

Similar to the concern over the presentation of Simon's perspective, a criticism over the write up of this chapter could focus on concerns over the pupils' perspective and evaluation. The justification for including the pupils' comments is based on the desire to respect pupils' voices. However, I have concerns that some pupils had a propensity to report positive feedback to meet expectations rather than offer a genuine opinion. Encouraging reflection was initially considered to be key to the evaluation and

also key to ensuring a shared understanding of the pilot project, therefore potentially increasing the value of the learning experience. However, the class was not formed in a conventional classroom, which would have facilitated group discussions and the completion of feedback forms. Further ideas that could have supported evaluation, but not developed, are included in section 6.3.3, under the *idea for a teachers' pack*. Despite a day of evaluation being organised, to my surprise I had to take the class alone and therefore the quality of the small focus group feedback was compromised. However, as detailed in Table 3 (4), a range of methods was used to try and understand pupils' approaches to the pilot project and more broadly EfS, discussed below. Reflecting on the quality of the evaluation possible during the pilot project is returned to in the concluding chapter.

The confusion over the remit of the pilot project is reflected in this write up, in which the pilot project is referred to as the Community Involvement module, a programme, and the St Andrews groups, as was the case during delivery. Rather than the very neat, smooth and successful first pilot project, the second pilot project raises issues over EfS implementation that are equally important in developing a strategy for EfS, as discussed in the concluding chapter. The second pilot project also challenged my role as a researcher, especially when Simon voiced my deep concerns: "we are all in different places and no one really knows what's going on and I think there is an issue there because...on a number of cases we missed out on key plans". Reflections on my role as a researcher are returned to in the concluding chapter.

6.3.1 Initial preparation with teacher

I met Simon at Davis Academy on an open day showcasing EfS. Simon was designing a Community Involvement module for his Higher pupils at the time I met him and was very keen to discuss my pilot project at Auchencairn Academy. I emailed Simon a brief description of the first pilot project including an overview of what happened with reference to the four thinking modes as underpinning the aims of the pilot project. The email included the programme from Auchencairn Academy; suggestions that I sought to discuss with people interested in developing the first pilot project and ideas discussed and proposed during the Auchencairn pilot project but not developed, as detailed in appendix 6.3 (2); and an overview of how the pilot project linked to CfE and the UNDES, see appendix 6.3 (3). The email extracts indicate my high aspirations for a second pilot project, fuelled on confidence arising from the Auchencairn pilot

project. Through writing the overview of how the pilot project linked to CfE and the UNDESSED, the pilot project was re-framed through reference to policy. The overview emphasised the role of EfS, based on an understanding of the first pilot project, as potentially enabling and qualifying the wider goals of CfE in terms of the ambition to enable all young people to become successful learners; confident individuals; responsible citizens; and effective contributors.

Simon's response to the email was positive: he was keen to arrange a meeting to discuss collaboration. I sent a more detailed overview of the Auchencairn pilot project that reflected my eagerness to share what had been possible during, and my expectations to build on, the Auchencairn pilot project. During our first meeting, Simon spoke about working with S5 pupils for a year (40 weeks, 80 hours) and that the second pilot project could be an umbrella mechanism for other relevant initiatives such as UNICEF, the garden, litter picks and fair trade. Despite confusion over how current and planned work would fit into my proposal I was enthusiastic to work with Simon. Simon's understanding of the pilot project as an opportunity concerned with "exploring the nature of personal and community involvement in society as an agent of change" and an opportunity for pupils to "redefine the nature of society and their role as change agents" instantly convinced me that this was an opportunity that should not be missed, with great potential to meet such an ambitious aim. After meeting Simon and discussing ideas, I compiled an outline of sessions that emerged from our conversation in which Simon spoke about his teaching experiences; I spoke about the Auchencairn pilot project; and we discussed plans for a second pilot project at Torr. I compiled an outline of sessions based on the plans we discussed. The outline of sessions, included in appendix 6.3 (4), is a key document sharing my initial understanding of the second pilot project. The outline comprised of 11 sessions: Reflective writing; An introduction to the pilot project; School as a microcosm of society; Utopianism (and ingredients for society); Starting your research (mind maps and preparation for St Andrews; Visit to St Andrews; Class preparation and discussion; Who must we meet?; Visit to primary school; filming the debate; and the Community event. As detailed in the outline, notes were made on the rationale; intended learning objectives; a delivery plan for the class; relevant notes from the Auchencairn pilot project; and suggestions for data collection. In reviewing the outline, presented in appendix 6.3(4), I am surprised and disappointed with the lack of explicit reference to Auchencairn Academy considering the ambition to build on the success of the first

pilot project. Although not prescriptive and open to co-development, the outline presented a guide to inform and structure the delivery of pilot project two. Depending on class abilities, it was expected that sessions would differ in length. As with the first pilot project, the thinking modes underpinned the ambition for the pilot project as presented in Box 6.3 (1).

Box 6.3 (1): Theoretical underpinnings and ambition for delivery for second pilot project

Thinking mode	Ambition for delivery
Systems thinking	As in pilot project one pupils will work in groups and present on their ideas and progress to the class. Pupils will be encouraged to consider their ideas from the focus of other topics. Pupils will also be encouraged to consider the environmental, social and economic consequences of their proposals and on the individual, local, national and global scale. Group presentations to the class will facilitate such discussions in addition to individual feedback. The broad range of topic headings, subject to change, reflects the ambition to engage with a holistic vision of society. Time for pupils to engage in “real world learning” will support contextualising learning and an appreciation of connections and complexity.
Future thinking	As with the first pilot project pupils will research and discuss their ideas for their utopia/collective future. Pupils will be encouraged to take ownership over their learning. Rather than pupils presenting to an audience, pupils will present their research and future message in the form of a video clip that will be shown to an audience on the completion of the pilot project.
An emphasis on values and priorities	Pupils will be encouraged to consider the personal relevance of their proposals and the values guiding their alternative proposals for change. The pilot project will seek to listen to pupils’ ideas and understanding of sustainable development rather than focus on set pro environmentally friendly behaviours. The pilot project has a flexible structure and pupils should be thus able to commence with their interests. Real world learning is predicted to engage the pupils.
Action competency	Pupils will be encouraged to develop the skills and confidence to share their thoughts, research and proposals related to their collective future. There will be more of a focus on real world learning as pupils will be encouraged to take part in first hand research, mainly focused on discussing issues with people “in the real world”. Potentially pupils may act on their proposals depending on the pilot project development.

In addition to the outline of sessions, I sent Simon an overview of my PhD. The overview of my PhD had a specific focus on the research questions informing the second pilot project, demonstrating high expectations related to evaluation under five key themes. The themes included details on: the form and success of the pilot project; the understanding of EfS from a teachers’ and pupils’ perspectives; pupils’ worldviews emerging through participation in the pilot project; and the way in which the pilot project linked to CfE, presented in Box 6.3 (2). The PhD overview included reference to my role: as a facilitator in eliciting views, participating in the co- delivery of the pilot project, and responsible for the write up in the form of a thesis. The PhD also included additional expectations for evaluation in terms of data collection methods and tools, and a checklist of data before leaving the school; see Box 6.3 (3). This was important to convey my expectations for research and working with the school.

Box 6.3 (2): Extract from PhD overview focused on key themes to guide evaluation sent to teacher to share expectations for research during Torr pilot project

Form and Success of the Strategy

Documentation of what happens in the classroom in a form that another teacher could use. This will be descriptive, i.e. a timetable of what happens in the classroom. I will write a blog for pupils to remind them what happens. This will cover the mode of teaching and include taking note of the pupils' understanding of the aims of this project before their evaluation.

Document and discuss the challenges and opportunities in implementing this approach.

Document the pupils' views on the best and worst part of the pilot project.

Document and discuss the pupils' views on their progress meeting their aims and how they consider the strategy has impacted on their personal development. Their evaluation of the pilot project will be complemented by the teacher's and my evaluation. Fundamentally, this requires asking *Does the student engage and how?* All of the above mission statements contribute to insights that relate to answering this above question. The following themes will also be used to elicit an understanding of pupils' engagement:

- Level of debate (in and outside the classroom).
- Consideration of "Action" taken as change agents.
- Discussion of relevance to pupils' own and their classmates' lives. This also overlaps with/will lead to eliciting views on responsibility and capacity to influence. I intend to discuss with each pupil the relevance of their research to their lives and also hold group discussions on relevance. This could be a theme for the peer assessment of presentations.

Box 1. gives an indication of the form self-assessment may take:

Versions of the following questions could/should be addressed:

Have I increased my confidence in:

-writing to a stranger who has influence over a particular issue I feel strongly about, to an MSP for example.

-sharing interest about an issue I feel strongly about. Give examples.

What initiative/ responsibility have I demonstrated?

Have I made an effort to work collaboratively with others? Give examples.

Have I made an effort to:

-set personal learning goals

-work collaboratively

-generate enthusiasm

-listen to others

Have I challenged/changed my thinking on an issue?

Have I considered what influences my thoughts?

Have I increased my understanding/considered how the issues discussed relate to me?

Understanding of EfS (re students and teachers)

This builds on the previous question and will be answered through reference to the pupils', teacher's and my experience

Document and discuss the teachers' and pupils' views on Education for Sustainability through questioning whether the pilot project should be repeated with another year group/be made into a subject. This will lead to a discussion about what is important for EfS and how EfS should be delivered and whether it's possible to achieve the same learning objectives through a different approach/within other subjects.

Document and discuss how the pilot project can be improved.

Student worldview emerging through participation in the pilot project (links to engagement and understanding of EfS)

What approaches to Sustainable Development can be produced via a participatory process of Education for Sustainability?

Although this question may not be explicit in the final write up of the thesis, or the content of the pupils' work analysed, the question will inform my documentation of how the pilot project is progressing. It is expected that it will partly be answered through a discussion of the pupils' personal development.

CfE

Hold a discussion with the teacher on how the project links to CfE.

Box 6.3 (3): Extract from PhD overview sent to teacher to share additional expectations for evaluation during Torr pilot project

I am mindful not to overload the pupils with my requirements for a PhD. Thus I hope to design the evaluation in a way that will also benefit the pupils through engaging them with research skills and improving the delivery of the classwork. The research will take into consideration not only the pupils' views, but the teacher's and my own experience of what happens in the classroom.

My Data Collection Methods (and tools) in Field

Sheet with pupils' names and relevant observations.

Interviews with me and interviewing each other.

Reflective diaries

Podcasts.

Blog, I'll leave a reminder.

Peer assessment

Group discussions

Feedback forms

Written resources to reflect on and discuss

I expect to have at least two evaluation sessions before write up to supplement informal discussions and observations. This should be beneficial to the delivery of the project in addition to producing knowledge for my PhD.

Checklist of data

On leaving the field I am to have:

my own reflective diaries and copy of timeline of what happened in class.

notes on each of the pupils' thoughts on how they would explain the project to a friend, the challenges, opportunities, and their progress (if any!). This will be in the form of interviews but also informal chats and observations.

various insights into the students' worldviews for discussion and reflection (profile for Wiki).

copies of the peer assessment on relevance to the class of their message. This will also lead to discussions on responsibility and capacity. (i.e. their role as change agents)

transcript of in-depth conversation with Simon about the challenges, opportunities, the class's progress and links to CfE.

notes on the recorded discussion on how education for sustainability should be embedded in the curriculum and whether there is support for repeating the project and why.

notes on what each student thought was the best part of the project and the worst part.

kept an up to date blog on the project via the Wiki.

Simon and I met again to set dates for the sessions. However, as discussed in the following section, the extent to which this preparation influenced the delivery of classwork was limited. Unlike the first pilot project, I was thrown as the ambition for my research plan depended on the running of a comprehensive project

6.3.2 Introduction to the implementation of Torr pilot project

The form of the second pilot project will be expanded upon throughout this section. As introduced, the pilot project was linked to a Community Involvement module,

consisting of a double period a week. As is discussed, there was confusion over the links between the pilot project and other ideas related to EfS.

The second pilot project was launched at the University of St Andrews, following a very similar structure to the launch for Auchencairn Academy. The pupils were given a lecture about global pressures and trends, emphasising the unequal distribution of the world's resources and the need to re-think our lifestyles. The pupils then split into groups to work with a University facilitator, who had been briefed for three short focus groups. Details relating to the facilitator's briefing are included in the appendix 6.3 (5). The first focus group consisted of a discussion to ensure pupils understood the lecture and engage them in thinking about EfS. The second focus group consisted of pupils being split into topic groups, comprising Energy, Health, Media/Education, Food, and Justice, and working on mind maps to guide their research when back in school. University facilitators were given prompting questions for each group, to use if they needed to actively stimulate engagement. The third focus group consisted of encouraging pupils to think about actions related to the ideas they had discussed. Each group was given a form asking how they could contribute to: improving their local area; influencing decision makers; influencing media and public opinion; and their initial ideas for researching their area, for example via the internet, visits or peer research. This form was intended to help the pupils understand the nature and scope of the pilot project.

When back in school, there was significant confusion throughout the Community Involvement module in part due to the relationship between the pilot project, referred to as the "St Andrews Groups"; and "Other Initiatives"; and class location, as two classrooms were used at the same time. The other initiatives comprised of the Fair Trade Group, the Primary School Group, the Gardening Group, the Recycling Group, and the Charities Group. The main focus of the St Andrews Groups was to engage pupils in making a short documentary or video clip on issues that related to their topic that they worked on in St Andrews. In the documentary/video clip pupils were expected to focus on ideas for the future, either focused on improving their local community or wider world. The pupils were given instructions to work with a storyboard to help structure their learning and were encouraged to invite people in to interview and discuss their views. None of the groups completed a finished documentary on their topic expressing their own opinions with a clear introduction and conclusion. However, the amount of filming varied. The progress of each group

differed greatly as is demonstrated in section 6.3.4*b*. Throughout the pilot project people from different backgrounds, or with a cause and dedicated to making improvements to society, came to speak with the class. Such outside engagement was initially intended to provide opportunities for pupils to research their topic. However, the reasons were reframed as an opportunity to broaden the pupils' horizons and involve them in discussions about local and wider change, considering the difficulty translating aspirations for the pilot project into practice.

The teaching staff

There were three teachers involved in the pilot project. Simon was the teacher who initiated the project and discussed classroom plans. Simon was head of Social Studies. Rebecca was an art teacher who Simon explained would be a great support for the pilot project and was already involved in relevant initiatives. Cheryl was a teacher on probation, with a free period and spent time working with Simon. Simon also explained that the school had two community/youth workers and a community police officer who were keen to be involved. However, I was unsure about how Simon and the other teachers were working. Simon, Cheryl, the community youth workers and I had a meeting and established the groups should all be mentored by a 'teacher'. However, the following class the 'mentors' were committed to other classes and therefore did not attend the pilot project class. Cheryl explained that, despite my initial understanding that she had been briefed about the project by Simon, she was almost totally uninformed. Approximately half way through the project Rebecca handed a worksheet to the pupils, proposing a group that resonated with the aims of the pilot project "to get local young people to engage with thinking about their local community, as a means to influence decision makers about the future of Torr". However, the pupils did not appear to work on this proposal. A volunteer who helped on the pilot project, was surprised that the teachers were occasionally absent or doing errands during class time. Therefore if the volunteer and I were working with small groups, a large number of pupils were without supervision.

Class background

Initial numbers for the class were 50 pupils comprising of S5 and S6 pupils. Several pupils left at Christmas and many of the pupils were involved in other initiatives and therefore were not present for every session. Pupils "chose" to do the Community

Involvement class as an elective, instead of Physical Education or Hospitality. Many of the pupils in the class were not ‘academically’ engaged. A short discussion on how the class was formed will be returned to under the pupils’ perspective. The class background is expanded on in section 3.3.4.

Key work sheets

A significant number of documents were written by me after discussions with Simon in order to clarify expectations; engage pupils in reflection; and facilitate pupil feedback. Material written but not passed to the pupils, included the following work sheets: *Timeline for Torr High; Overview of Project; Your Audience and Potential Partnerships...; Individual Progress (to complete every second week); Group Progress (to complete every week); You; Individual Profile; Proposal for Support; Information on the Documentary; Utopian letter; Preparing for your Audience*; and a synopsis of the documentaries they were to make; see Box 6.3 (4). The work sheets were written after conversations with Simon about the need to provide structure. Two key handouts compiled by Simon give an insight into how Simon interpreted the pilot project. Included in the first handout, Simon reflected back on the last few weeks: “over the last few weeks we have been finding our feet, working out what needs to be done and trying to organise our plans. This has been, at times, a little chaotic, although I think this was probably unavoidable”. The outline of sessions did not explicitly inform the presentation of the pilot project to the pupils. Simon defined the “St Andrews Groups” through reference to the “other initiatives”. I was interested by the definition given to the pupils in which Simon refers to the “St Andrews Groups” as “Global Groups”:

“As you know, we have been on two distinct but related projects. One is local and focuses on the concerns which we as a school have identified as important areas for development - Charity work, Fair Trade, the Eco Garden, and Recycling. The second is more global and asks questions about how we, as a community and individuals, can contribute to society and what opportunities we have to build a more successful, fair and equal society for the future. These were the groups we worked in St Andrews and cover Justice, Energy, Health, Food and Entertainment”.

Simon was keen that the “St Andrews/Global Groups” and other groups worked together. However, the way in which the two groups would “increasingly develop together” was not qualified in the first hand-out, although Simon referred to “the final

outcome will be an event which draws on both". The handout gives an insight into initiatives that could be considered as EfS in the school, referred to in chapter seven. The handout did not present an explanation of the aims of the "St Andrews Groups" in terms of expectations to guide pupils' work. However, Simon requested written feedback, making reference to an award that we had not discussed:

"On the first day of this new structure, we will need each member of the group to complete a written record of what they have been doing over the last weeks. If we don't have this we won't be able to certificate your Bronze (or Silver) award. It's really important for that reason and as a means of ensuring that anyone coming in to look at the work we've been involved in can see what we've done".

The second handout compiled by Simon demonstrated Simon's expectations for the pupils to structure their learning by making a documentary and high expectations for pupils to engage with reflection on the pilot project: "we will also ask you, during March, to write up the year's activities". The second handout reflects the confusing nature of class times that characterised the pilot project, referring to "each group will spend one period (roughly) finishing their planning for the documentary".

6.3.3 Teacher's perspective: the opportunities and challenges

Throughout the pilot project I held conversations, mostly recorded, with Simon. This section draws on these conversations to introduce a brief understanding of the pilot project as perceived by Simon and then the overlapping challenges that were encountered in delivering the pilot project. The following sub-headings structure this section: understanding of project; originality; the approach and challenges related to pedagogy; logistics; CfE; and idea of a teacher pack.

Brief understanding of pilot project

As demonstrated in the description of the initial meeting, Simon perceived the pilot project as an opportunity to engage with a holistic and transformative approach to EfS in which the pupils would be encouraged to challenge their role in society. Simon was excited about developing a model that would contribute to challenging the image of Torr and that would focus, not only on challenging society, but bringing the community together. Simon described our approach as "sector leading" indicating the challenging pedagogy that we had discussed and endorsed focused on pupil led learning. A driving

aspiration was a commitment to encourage pupils to take initiative, demonstrate responsibility, and take ownership of their learning. The role of reflection was considered a vital aspect to facilitate 'transformative learning', and by corollary EfS.

During the pilot project Simon was enthusiastic about our efforts, progress and the potential benefits for the pupils. Simon explained that it would enhance their CVs: "there is not a soul in this group with the exception of the people who chose not to (refers to one girl)...who can't go, when I write my CV..., I have interviewed this person and that person and I was at this, I was at that...". Simon frequently made reference to the importance of the pilot project and the power of transformation: for the individual pupils, the school and the wider society:

"It's such a powerful thing to be able to be involved in which I was trying to say to the group this morning and we were all agreeing. A school asking the kind of questions you are asking people in positions like that and producing something like what we've planned to produce has an immense power to transform things...this is community activism at its best."

Simon had a genuine interest in the importance of, and need for, youth empowerment and a commitment for a more inclusive society, talking about "two different worlds, there is a child's world and an adult's world".

Simon's mid-way reflections provide an understanding of his approach to the pilot project, in which he reflects on: how the pilot project differs from what the pupils are accustomed to at school; his aspirations to contextualise learning; and his acknowledgement of the need for more structure:

"I've enjoyed it. I genuinely think it has been a positive and valuable piece of work. I think from my own perspective, a learning experience, and how to actual do this thing...you know. I've learnt an awful lot from you about the way these things work. I've learnt a lot from the kids as well. I know these children well but to see the way they operate in this very unstructured situation in which you are saying, go and do this thing. They are given a finite task which is why they are so good at recycling, you know, go and empty all these boxes. So they go and empty all these boxes, you know, sorted. They are not good at go and work on a plan to do this...because they can't work that out. You know children that are thinking about doing the garden, they are focused on a finite plan. And the children that are focused on the recycling, they are sorted, they know what they are doing. And the kids that are organising the charities..."

Now I want much more to push that on and add that, you know the element that we have got here, you know what are the implications for the community of you being involved in the things that you are doing there and what have you been doing with that. To my mind that's the most important part of the project. You know, getting them to think about: you are not simply emptying a recycling box because that is what you do on a Thursday. You are getting involved in the whole process of consumption and of the use of energy and materials...And that's what I think is important about it...but I'm not sure how many schools you will find where kids will have the initiative to do this themselves. So we need to, fairly heavily, prescribe a lot of the activity we are doing. Once the groups are started...exactly what you were saying...it needs to be a pupil leader for every group. Pupil leaders are fine but they don't have the authority".

Simon clarified his understanding of both the St Andrews groups and the other initiatives through comparison: emphasising his desire to engage the pupils in reflection and structural, as well as individual, change not commonplace in the school. As Simon explained, "The difficulty for them with the St Andrews groups is that they have to think philosophically if you like, you know politically, they have to think in a different way and I think if you get into it and you know what you are going for then that drive is there". As is emphasised in the quote below Simon was keen that the pilot project would not be about indoctrination but encouraging and facilitating the pupils to: think for themselves, challenge, question, research and share their views. The commitment to pupil led learning and the controversial balance between support, indoctrination and neglect permeated the pilot project, and was considered a challenge that most subjects traditionally do not encounter. As Simon reflected,

"I suppose it's getting the balance between imposing structure and allowing freedom of movement and I want them to be able to do the moving themselves because if you don't have that clearly there isn't the same kind of...there is no point in the course...you know if we sit round and say, write that, copy this. That's just another subject".

Simon's optimism and enthusiasm were woven into the conversations, as Simon commented: "I think it's been quite an astounding thing in a lot of ways in that it has been so much bigger...what you did at Auchencairn was eight weeks and we've had 40 weeks and that is quite staggering" and "we have done a huge amount...we've done

extremely well...if you look at the amount of stuff...". As acknowledged in the introduction, my reflections on the coursework, including structure, are included in section 6.3.5. Simon also made reference to the support from other pupils that had heard about the class: "Quite a lot of kids came in and said to me...I look forward to doing that...are you still doing that next year...now I don't know where that came from...because what I was bothered about was that a lot of kids would go like na...don't do it. Because kids talk, as you know...and I think a lot of the kids are actually quite driven by it..."

The link with employability and potential to seek internships in relevant areas was discussed. The potential to develop generic skills through contacting people outside of the school, including an understanding of the importance of perseverance, was considered an important aspect in giving pupils an insight into "life beyond school". As discussed below, Simon frequently referred to the pilot project as raising the bar for EfS; was keen to share his learning with other teachers; and highlighted challenges relating to the specifics of the second pilot project, and more general challenges in terms of the educational system.

Originality

It was clear through our discussions that Simon perceived that we were engaging with a different approach to education, expanded upon in the following sub-sections and reflected in the following quotes:

"I'm thinking what are the things that we could do better...or could have done better...the key question is that we gave them something I think which was such a sea change that it was very difficult for them to grapple with it...they are not used to having the kind of opportunities that we suggested..."

"This is astonishingly difficult. What we are doing here, no other teacher in a Scottish secondary school would undertake. That is not strictly true. Any school in which this is happening, people like us, that are doing it... they become...well, that's what they did in such and such a place..."

The approach and challenges related to pedagogy

Simon's understanding that the pilot project was raising the bar for EfS is encapsulated in the following quote about the pedagogy, indicating that:

“A lot of teachers would be struggling with what we are doing in the sense that you are abdicating a huge amount of control. We are saying to these pupils go places...You know, go away and do that thing...So some teachers I think will be like I’m not going to let them out the classroom because they might not come back...they might be away doing the wrong thing,...they might be hanging about, they might be in the common room. It’s risky...It’s a risk”.

I was interested in the extent that Simon felt whether or not the pilot project required more time and emotional energy than other projects he had been involved in. As is demonstrated, perceptions of stress varied. When asked whether or not Simon found the project stressful he replied: “No, No. I’ll tell you the only time that it is stressful is 10 to 9 on a Thursday morning. When you are thinking right where are you going now...what are we doing...once you get into it and it’s actually starting and you’ve got yourself picked up...you really get somewhere”. However, on other occasions Simon emphasised the amount of time, and energy, required for the pilot project, as reflected in our following conversation:

“It could take up your entire life, when you spend time planning and organising. It is more difficult than any other school thing you do because, from my point of view as a teacher, you’re preparing here is a course, here are the outcomes, here are the methods, let’s go. Once that is in place you are tweaking, adjusting and moderating but you are doing it as you go”

“We should be in a position that we can type the things up. You know, every Thursday I feel like I’m starting again. Do you know what I mean? Every Thursday. You’ve just got them, right we are doing it...and then you come back next Thursday and then...we are starting again...”

“It’s quite emotionally draining” [Me]

“It is extraordinarily draining. And this morning it was difficult to find that there was such a huge number not here...”

CfE

Simon made several references to CfE throughout our discussions: stressing that the pilot project encapsulated the aims of CfE; indicating CfE required a change of mindset for many teachers and as such was challenging; and indicating high expectations for pupils to take initiative endorsed in CfE but the difficulty of facilitating pupils to do so:

“from a profession that says I will tell you what you need to know...it’s changing now as we are getting into the CfE. And that’s one of the reasons this is a valuable exercise because we are producing something which is inline very closely with the whole concept. I mean talk about choice. You’re talking about progression, you’re talking about breadth...I think what we are actually doing here is..you know CfE writ large...there is no other way of putting it”

“You’re embracing this CfE idea but it is quite difficult for teachers because it is such a challenging notion and while we’re still stuck...with Experience and Outcomes...that’s where we feel comfortable because it’s safer...this is what the young person will know...and that’s our comfort zone, that’s what you do in teaching...”

“we’ve now moved very closely towards learning and teaching as opposed to teaching. Teaching used to be something that was done to pupils. Learning and teaching is done with a partnership...and that’s the trick. You can see it happens Thursday by Thursday because you come in on a Thursday and think I have no idea how it’s going to happen today...and you don’t know how or what and by the end of it is actually working”

“we were saying we would like you to challenge, we would like you to question...to take initiative, we would like you to do all these things: we want you to behave as if you were actually in a CfE and behave in that kind of responsible citizen, successful learner...effective contributors specifically...get out there and do it. Unless you or I or Rebecca were there I don’t think they got it”

Reference was made to the commitment to developing responsible citizens in CfE and the limited access to the internet for pupils in school, including restrictions on facebook and youtube as tools for communication and research: “There’s so much good stuff for them to view...you need some sort of trust...be responsible citizens, aye, except we are not going to let you. We will make the rules about it”.

Idea of a teachers’ pack

Simon and I discussed the need for a teachers’ pack for the delivery of the pilot project, given an appreciation of a different and more prescriptive approach to learning and teaching prevalent in the school curriculum. Simon was very eager to share learning

with others and develop a comprehensive model, with “enough elbow room that they can say, I want to do that bit, I don’t want to do that bit...that there is a clear thing so they can look at it and say, yeah, that’s what we can do...and that’s a tricky bit”. In this discussion Simon emphasised the need for us to reflect and draw everything together and that many other teachers wouldn’t have the capacity to engage with the ambitious project: “An ordinary teacher isn’t going to do this”. However, when I asked Simon if he thought other teachers would struggle to deliver if we compiled a resource he was optimistic about his colleagues’ abilities. On another occasion Simon mentioned the “supervisory element as well for doing photographing and filming elsewhere” that required extra staff capacity.

There was a range of ideas discussed for improving the second pilot project to facilitate pupil feedback and engage pupils in developing their understandings of sustainable development, as acknowledged in the introduction. The ideas proposed but not acted upon included: a Big Brother room, where pupils would report on their progress, challenges and future plans; class presentations on the pupils’ progress; and looking at newspapers to expose pupils to potential areas to work on. The resulting resources compiled after the completion of the pilot project are included in appendix 6.3(10).

The challenges encountered during the pilot project were considered as giving valuable insights into EfS in the secondary school curriculum. The following section outlines the challenges that were discussed in conversations with Simon throughout the pilot project under the following headings: logistics; class attitudes: ambition and engagement with issues; class abilities: team work, understanding and initiative; and evaluation.

Logistics

In order for an accurate portrayal of the second pilot project it is important to acknowledge that there were logistical issues that influenced class cohesion and the delivery of the pilot project: the presence of “other groups”, the location of the project, the dissemination of information, and the need for structure. The presence of “other groups” played a fundamental role throughout the pilot project, acknowledged by Simon. Simon explained that if we were to do it again, we should only have the St Andrews groups due to the problem of integrating the two groups. The location of the

class led to confusion as the class was split, and two classrooms used, causing problems identified by Simon:

“That’s part of my problem at the moment, I’m constantly going from place to place to see if everyone is doing what they should be doing. That’s always an issue. The fact that we are in two opposite ends of the school doesn’t help...adjoining classes would have been easier”

“because once people are away in their group...it’s very difficult to see where they actually are...and I should imagine that some of them, as you and I have identified, do almost nothing”

The class were rarely together and pupils appeared confused about the location of the class. Simon emphasised the difficulty of ensuring pupils had received briefing about the pilot project explaining the tendency for pupils to pick up worksheets and lose them: “They put them down when they leave and that is no use. [It is] hard handing out the sheets if they are all over” and “Well, they put them down where they are when the bell rings. That’s it I’m off. Where’s the sheet, oh I had it last week...”. Simon acknowledged that there were too many pupils in the class: “I think 53 was too many by a long shot...it is not possible to do it with that number”. Simon also reflected on the need for clarity in the groups’ remits and the way in which his ambitious understanding of the groups’ remits often clashed with pupils’ interpretations of their remit, encapsulated in the following quote:

“I think that’s where one of our difficulties lies...we give them a heading like energy, or food, or health, they define it in what they kind of assume a school means by it...so energy means switching off lights, green energy, depletion of resources...climate change...blah, blah...health means exercise, not smoking, not drinking too much, eating a good diet...and therefore they define that in that sense and what we want them to do is define it in the sense of what makes a healthy person...and we are not talking about physical health alone, so to get them maybe to do that...”

The extent that structure was a challenge was influenced by the unusual class arrangements mentioned above. Throughout the pilot project a commitment to improve the structure, and have a clearer picture of what each group would address, frequently featured in our conversations, for example:

“[we need to say] this is what we’re doing, next week you’ll be doing this and so on and that will take them through and then they can see a broader

timescale. That means we are looking at something far more manageable and they are focusing on it...And that way you will be able to say, this is your area of focus. These are the questions you are going to be asking. These are the places you might find answers here. And then hopefully set them off"

Simon explained, "I'm minded to put together something along the lines of what we envisage them to be doing and say look, see how that accords with what you are doing already" and suggested a pack with "a calendar in which every single week is accounted for by either us or them and preferably by a group decision. I really want them to come in...and [know] these are the things I'm doing...these are the targets that I've got...these are the areas we are working in..." Simon appreciated the need to "find out who actually understands what the point of this is..." and proposed getting "a lot of written work done". Simon highlighted the need for pupils to be supported by a teacher: "What I reckon we need to do for the next nine weeks is actually to have a key programme for exactly what we are going to do. I think we need to assign a member of staff to each group". Simon also spoke about the importance, and the ambition, of an "end product":

"we need something that says this is what we will be finishing off with. I envisage...you have the videos, the documentaries get put together...you have the artwork that they have generated...you have at least two pieces of writing from each pupil to say why their project was important and what they were trying to do and what it has taught them...you know a kind of overall evaluation but something with a more philosophical perspective about what it's all about...I kind of envisage it as a kind of walk through, rather than folk sitting to people listening and talking. I think you want a plenary session: nibbles, folk sitting there, this is what we did, this is what we tried to do...this is what we are aiming for...enjoy."

However, as Simon highlighted in an email correspondence we were not delivering a comprehensive model: "The project here has often had a sort of ethereal quality where concepts and plans have floated, wraithlike, into our ideas and, like bumbling lepidopterists, we have allowed some to elude our nets and escape". On another occasion Simon's reflection indicated that we had perhaps taken on too much and were in need of sitting down to "draw this all together": "Because at the moment things fly in for that area and this area and there are all these kinda weird shifts and

directions". My reflections on the structure are included at the end of the write up, and the pedagogical approach discussed in chapter seven.

A key theme arising during reflecting on the challenges of the project related to the class attitudes, ambitions and engagement with issues, addressed below.

Class attitudes and abilities

All teachers involved expressed concern that the pupils had low levels of engagement with the local and global community. Therefore, a misinterpretation that the pupils did not care could be confused with an underlying lack of awareness about the need for sustainable development. The identification of class attitudes as a challenge reflects a failure to draw on pupils' areas of interests and facilitate engagement. Despite generating enthusiasm one week, sustaining that level of interest was challenging. Simon indicated a range of abilities and attitudes in the class and subsequent engagement with the pilot project: "it's quite revealing some of them have done screeds of things and others have done very little". On another occasion Simon explained that the 6th year's low ambitions could be a factor in not reaching initial aspirations for the pilot project:

"I think that's what I mean when I say we've made mistakes. We didn't really get the message across to them: this is what we are actually doing, this is how it's going to work...there is a number of things we didn't take into consideration. We didn't take into consideration that a lot of the six years see sixth year [the final year] as a means of doing as little as possible. And there are quite a number of six year pupils in the school who have pretty well decided that they can't afford a year out but they will do it in here...you come in, you go to a few subjects, you potter around...by this time you've now got kids dropping out of subjects, oh I can't do that...I'm going to just concentrate on that...because they haven't been really working"

Both Simon and Cheryl made reference to the pupils' backgrounds in influencing their approach to school work, reflected in the following quotes:

"what might be the gut reaction is probably right...in that the kids from the, in adverted commas, better, more affluent background are more motivated to do something and yet it should be the other way around" (Simon)

"I did my placement in two different schools. One which was probably more similar to this but not really as a deprived area and another one in a much more middle

class area...and I think there was a huge difference in attitude maybe it's coming from the parents, from their homes" (Cheryl)

There was an acknowledgement that subjects without an exam were not considered important and resulted in even less effort on the pupils' part. There were many in the class that were not academically engaged, as Simon explained: [there are] a lot of kids who ought not to be here...a lot of them are like that...there is nowhere else for them to go...there are some you worry about...". At times Simon clearly felt frustrated with the pupils' levels of ambition and engagement with issues: "What I don't really get with the kids is the fact that they don't really have any horizons beyond Torr...". On one occasion Simon explained that the "big problem" lies with the pupils being "too parochial" and a lack of "understanding of the big picture". On the other hand, Simon did refer to their potential to be engaged: "The thing is they are interested, that is the point. You need to take them by the hand and say, let's go do that thing..." and "The thing is they are good. All the kids are good, if they have, do this". Simon also commented that there "was an absolute ground swell of passion" provoked by the viral video of Joseph Koney's child soldiers. In a discussion over potential titles for the module, Simon emphasised that many of the pupils perceived they had little influence on their community and wider society: "They are capable of demanding certain things but in an impotent kind of it will never happen sort of way. I think part of that is actually to do with the environment they are growing up in because I think their parents feel the same".

The class's abilities to work in a team, understand issues, and take initiative was recognised as a problem throughout the pilot project. Simon and Rebecca explained that the pupils were accustomed to being told what to do and that many of the pupils were unaware of the issues that we spoke about relevant to their topics. In reflecting on the class, Simon emphasised problems with group dynamics, including girls falling out with each other and pupils not appearing "because of other things". The following comment indicates different attitudes and abilities in the class: "what we discovered is what probably we would have known we would discover: some don't have the motivational skills, some don't have the enthusiasm, some have all the enthusiasm but no organisational ability, some have no initiative...". As already highlighted, Simon explained that pupils were unaccustomed to taking initiative and questioning:

“the kids are bogged down in thinking I come to school and be told what to do...and a lot of them don’t understand what is meant when we say go and do something... you find that in education all the time, do a project on...what have I to look for...and when you actually look at what they have done...it’s Wikipedia...cut paste, cut paste...”

The above two comments also provide insights into the structure of, and pedagogy informing, the pilot project, returned to in the chapter seven.

The above has sought to present Simon’s understanding of the pilot project and wider educational system. As already acknowledged Simon’s perspective is drawn upon in chapter seven, in analysing theory, policy, and practice.

6.3.4 Pupil profile and feedback

The following sections gives an insight into the capacity for evaluation; and pupils’ attitudes towards, and propensity to engage with, EfS. The section highlights low expectations of EfS, confusion over the pilot project, and a failure to incorporate pupils’ feedback into the delivery of the pilot project. The section also highlights a level of support for the pilot project. However, pupils’ reference to the benefits of the pilot project was not justified, indicating the challenge of facilitating and presenting an authentic pupil response during this pilot project. This section is spilt into four parts: an overview of pupils’ attitudes to sustainable development and the pilot project, comprising of a recap and Simon’s feedback form; reflections on group progress; the feedback forms; and informal discussions with pupils. Not all pupils completed feedback and several pupils left school over the course of the pilot project; see Table 6.3 (1).

Table 6.3(1): Overview of group composition and extent feedback submitted to teacher during Torr pilot project

The Group	No. of pupils in the group	No. of pupils completing Simon's feedback form	No. of pupils completing reflective essays	No of pupils completing mid feedback forms	No. of pupils completing final feedback forms
Energy	9 2 left school	4	4	8	7
Entertainment	10 3 left school	4	5	4	5
Food	8 1 left school	0	3	2	3
Justice	9 1 left school	1	8	9	8
Health	8 2 left school	2	5	5	6
Total	44 9 left school	11	25	28	29

6.3.4a Overview of pupils' attitudes to sustainable development and the pilot project

A recap

Due to my concern over class confusion about the pilot project and enthusiasm to share my understanding of the original rationale and aims, I asked the class to write down, in groups, the aims of the pilot project, as shown in Figure 6.3 (1).

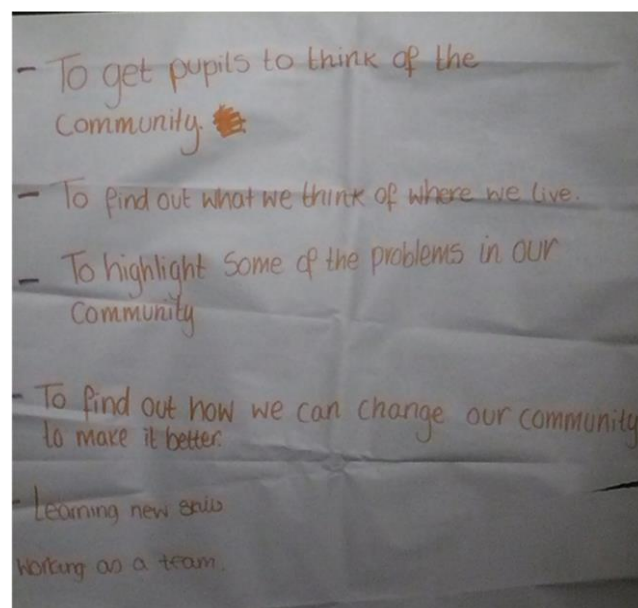
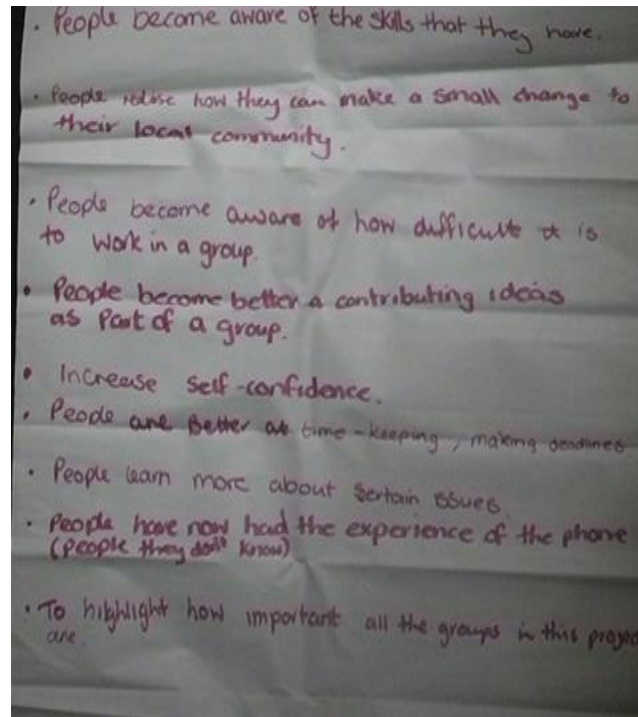


Figure 6.3 (1): Pupils' articulation of aims of Torr pilot project, completed halfway through project in three groups

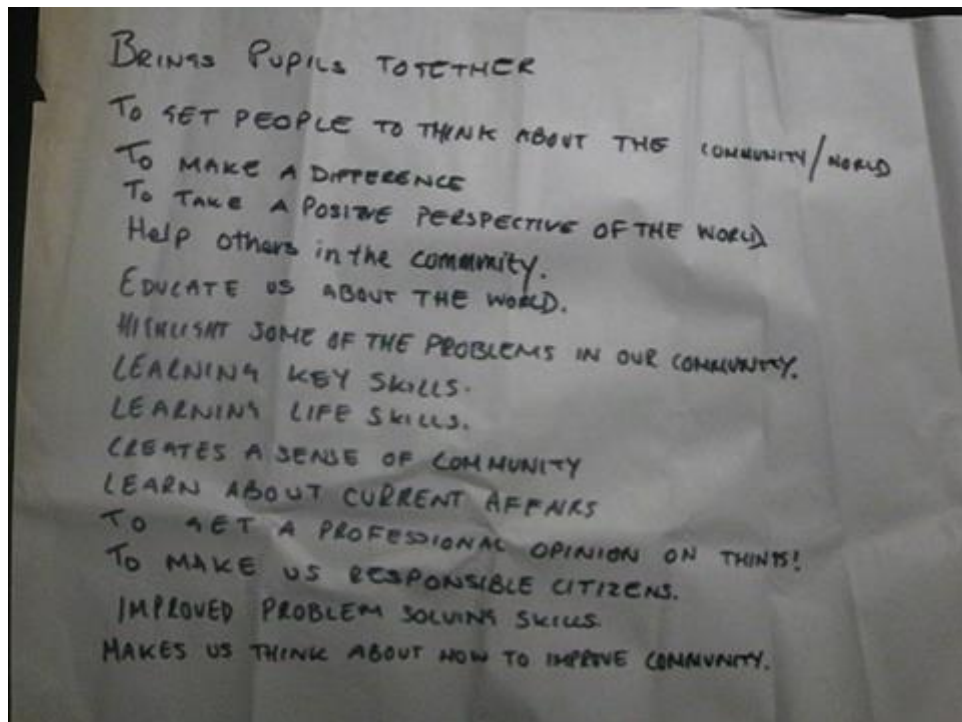


Figure 6.3 (1): Continued

My recap with pupils demonstrated a basic understanding of the pilot project. For example, reference was made to contributing ideas as part of a group; highlighting the importance of all the groups; engaging with their local community and thinking about how to improve their community; and developing generic skills. A focus on objectives may have resulted in pupils identifying key aspects of the pilot project that were absent from the lists of aims. As demonstrated, it was not evident that the pupils appreciated the importance of them taking initiative or considered the pilot project as comprehensive: guided by making a documentary that would share, and challenge, their ideas for an improved community or wider society, incorporating the thinking modes as presented in Table 6.3 (1).

Simon's feedback form for pupils

Simon compiled and handed out a feedback form four months into term that asked pupils about: expectations of the pilot project; reasons for "opting for this elective"; the work that they had been involved in; what they had learnt; and whether or not they had been confused. The feedback form also asked pupils to write a press release in no more than 100 words on what the "programme is about" and whether or not they felt the project could have a positive effect on their community. Few pupils handed back

the feedback form, indicating low expectations to complete course work: 11 of the 44 pupils completed and returned the feedback form. All pupils' responses are presented in appendix 6.3 (6).

The first question concerned pupils' expectations before starting. The responses indicated the prominence of other initiatives running alongside the St Andrews groups. All pupils' responses are presented under headings: three negative comments; four comments focused on community involvement; and four comments focused on a specific issue. Expectations were low: "a waste of time" featured twice; recycling featured twice; Mark thought it would be about gardening, Tom thought it would be about school surveys; and reference to the community was very basic, for example "about being involved with the community, hence its name" (Rebecca). There was no mention of doing their own research, working in groups to develop and share their own opinions, or thinking about their role in the local and global community. The answers did not imply that the pupils understood that they would be required to take initiative or engage with the thinking modes as presented in Table 6.3(1).

Pupils were then asked why they chose this "elective". Several pupils explained that the other options were not attractive; that the hospitality subject was full; and that they did not like physical education; and a couple of pupils mentioned their CV. Keith commented that he liked the "eco-side of this"; the other two comments related to "*lots of free spaces*" (Rowan) and having had the "group chosen for me" (Rob). My understanding that the class had formed through pupils choosing to participate out of interest was clearly wrong. I was unsure of the briefing that took place to form the class and so this feedback was enlightening in terms of how the class formed, and pupils' understanding and expectations of the pilot project and broader "EfS initiatives".

Pupils were then asked what they had done over the four months and what was gained, through reference to tick boxes and space to provide an additional explanation under the following activities: telephone/ e-mail; interviewing and preparing for an interview; planning; filming; visiting; listening to speakers; and school based work (Recycling, Fair Trade, Garden Project, Charities). Responses indicated challenges with the class in terms of participation, and the level of reflection evident potentially indicated low levels of engagement. Nine of the 11 pupils that responded indicated that they had been involved in interviewing and preparing for interviews. However, the additional explanations were short, for example "Councillors" (Cheryl). Eight out of the 11 pupils indicated they had been involved with planning, again responses lacked

additional explanation, for example, “the documentary thingy” (Rebecca) and the “timeline” (Keith). It was clear that recycling was an important aspect of the school work, as all respondents referred to recycling.

Pupils were asked to reflect on what they had learnt over the four month period, resulting in responses that focused on an issue or generic skill; see Table 6.3 (2). With a few exceptions, I did not see signs that pupils had developed their team working skills or had grown in confidence speaking in front of people.

Table 6.3 (2): All pupils’ written comments on their learning during the “programme”, expressed via feedback sheet

Issue focus	Generic Skills focus
Where the boxes are for recycling (Sophie)	To be more confident in speaking in front of others (Cheryl)
I learned about the health in Torr and Scotland in general (Melissa)	More confidence to speak in front of others (Rebecca)
The importance of energy (Mark)	Team work (Rowan)
How important energy is in our life, how important recycling is. How hard it is to organise the group (Keith)	Working in groups and writing letters (Jade)
I have learned more in-depth information about health in the wider community, the effects of which drug and alcohol have on people (Marion)	Communication skills, organisation skills, teamwork, local involvement, planning, money handling (Tom)
	I have developed my team working skills (Rob)

Pupils were then asked whether or not they had been “unsure of what we’re actually doing”. With a couple of exceptions, high levels of confusion, especially at the start were reported, for example “yes most weeks” (Sophie); “at the start, where we actually did nothing” (Rebecca); and “Yes, when we were at St Andrews and why we are doing the documentary and why we are doing the artwork” (Melissa).

The penultimate question asked pupils to write in “no more than 100 words” a press release explaining what the “programme” was about. Pupils presented a very vague understanding that the “programme” is about helping, improving the community and “trying to make Torr a better place” (Rebecca), Sophie referred to “find[ing] out people’s thoughts about the community”; two pupils were unable to provide any answer; Jade referred to the Eco Garden; and Kelly’s response was very topic focused, related to energy. Tom however demonstrated an understanding that the pilot project is about engaging the pupils in thinking about their position in society: “The programme is about trying to make a difference to the surrounding area. It’s about looking at your position in society and try to influence others in the same way that I

have been influenced by the people that I have interviewed in this programme". No one mentioned the documentary, the form of community engagement or what was happening in any detail, indicating pupils had low expectations that plans would materialise.

The last question asked pupils to reflect on the aims of the pilot project through questioning what affect the pilot project could have on the school and wider community. Three pupils indicated that it could make people more pro-active. Two pupils mentioned the garden, which didn't relate to the St Andrews groups. Rob emphasised the potential to build community cohesion. Two pupils' comments were very topic focused, which reflected the extent that the pilot project was not comprehensive and the lack of class identity established. An absence of engaging in the structural issue of sustainable development was emphasised through reference to recycling and turning the lights off.

Despite the aspiration for the pilot project to foster pupil led learning, rather than set pro environmentally friendly behaviours, and incorporate pupil feedback into the pilot project; the feedback indicates that many of the pupils did not engage in deep reflection or articulate ambitions to progress, an essential starting point. The pupils' responses were not discussed in class.

Insights into the concept of EfS dominant in the curriculum arising from Simon's feedback form are discussed and contextualised in chapter seven.

6.3.4b Reflections on group progress

This section expands on the class profile through consideration of the groups' progress to structure reflection on what happened during the pilot project. The section briefly refers to plans and expectations for the documentary; and then group overviews of progress: with a strong focus on pupils' "reflective essays"; Simon and my conversations; and my reflective diary on the groups' progress.

Convinced that the pupils needed more support and guidance, I wrote an overview for each group of a potential plan for their documentary to adjust or follow, see appendix 6.3 (7). The synopsis of the documentaries incorporated the discussions I had with pupils during class time on areas that interested them. The synopses share an understanding of the form of the pilot project that Simon and I hoped to develop, an example is included in Box 6.3 (4). The supporting teachers also had a meeting and we arranged to each monitor a group. However, this did not materialise, as the

supporting teachers were not present at the next lesson. Simon tweaked the synopses but I am unsure if the pupils received them.

Box 6.3 (4): Synopsis of potential documentary for justice group as part of Torr pilot project

Justice
 What fires us up? What are the important issues for our generation? What needs to be done to make our community fairer?
 What do people really think about Torr? How does it compare with their hometowns? These are just some of the questions that will be addressed in this documentary. Conversations with people from different countries and cultures about justice and their views on Torr give rise to mutual learning and us a new perspective on whether or not Torr really is as bad as we think...
 We then document our learning interviewing people dedicated to making the world a fairer place and discuss whether or not their actions are relevant to us, including a visit to prison and discussions with people seeking asylum in Britain. The video is one of a series of videos "change agents from Torr" produced by pupils at Torr High who have been researching the different "ingredients of society"; challenging the way things are; and sharing an inspiring vision of how to create a fairer, "wiser" community.

As explained in the introduction to the implementation of Torr pilot project, the groups were asked to think of relevant people to interview for their documentaries. Throughout the pilot project, outside engagement aimed to encourage pupils to articulate what they were doing and broaden their horizons. People contacted as part of the project included a film maker and fair trade activist; local councillors; their MSP; a Syrian activist, committed to non-violent resistance; an ex-drug addict; people from different countries and cultures; a lifeline activist; the local development trust; Tesco; a government advisor/weatherman; the local radio station; a paramedic; and an NGO working on social justice. However, many of the visitors were invited by myself. In the proceeding discussion the visitors are referred to under relevant groups for structure although several of the visitors addressed the whole class.

The pupils were asked to write an overview of the pilot project focused on the "St Andrews Groups": how they had been progressing; their future plans; and what they had gained from the Community Involvement module. Twenty five short essays were completed in approximately one period. I was not present when the instructions were given to the class. The purpose of the task was to enable and exhibit reflection and therefore the essays can be considered insightful into the quality of work expected from pupils. Four main questions emerged after I read the essays and thus the essays were subsequently coded with reference to the following questions:

1. Did the feedback reflect an understanding of the rationale for the “Community Involvement” project?

I re-read the essays for pupils’ understanding of the rationale and aims of the pilot project (general and topic based) and what pupils reported to have done: this included reference to the Trip to St Andrews, Additional Initiatives, Research and Documentaries.

2. Did the feedback indicate that pupils were engaging with “causes” that they felt strongly about?

I re-read the essays for evidence of engagement with causes and personal opinions.

3. Did the feedback reflect that pupils had taken an initiative and had clear plans on how they would progress?

I re-read the essays for evidence of initiative and clear plans to progress.

4. What did, if anything, pupils report that they were gaining and was there evidence for this?

I re-read the essays for reference to what was gained.

These four themes (understanding; “causes”/relevance; initiative and future plans; and learning) informed my reflections.

The following discussion is structured through reference to the groups and draws on my informal conversations with groups on progress; my observations focused on interest, support and understanding; and the output of each group, including the reflective essays.

Group one: Energy

This group consisted of Mary, Fiona, Jade, Mark, Sam, Roby, Kelly, Keith, and Rob. We invited Dr Campbell, who had been a government advisor and weatherman, to meet the energy group. Dr Campbell was interviewed by a couple of pupils on renewable energy and then gave the class a talk about climate change, the need to re-think the way we live due to unsustainable development, and the need for alternatives.

This group consisted of two notably engaged and enthusiastic pupils, Keith and Roby. Neither handed in their reflective overviews and both appeared to require extra tuition. Keith was very keen to meet people knowledgeable about renewable energy and climate change. Keith took the lead in interviewing Dr Campbell. The interview indicated that Keith had researched the topic thoroughly before forming questions

about renewable energy. Many of the pupils appeared to be engaged and several asked questions during Dr Campbell's talk. However, several pupils appeared not to believe in, or know about, climate change and were confused about the relevance of his talk. There was potential for the energy group to do peer research into what the class thought about the talk and climate change but this did not materialise.

A volunteer occasionally worked with this group and reported that they required substantial support, and could be potentially very engaged. She suggested that structural issues such as the double classroom and confusion over the other projects impeded pupils' progress.

I was unsure how frequently the group members met as a group due to other school projects, such as learning support and recycling duty. A conversation with the girls in the group indicated that the group was struggling with teamwork. Jade, who was listed as being in the energy group, explained she was in the entertainment group: "During my experience with the entertainment group we wrote down what we didn't like about our town and were planning to discuss this with our MP". This reflects my concern about group identity. Despite Keith reporting considerable stress over the group and talk about materials gathered for a presentation, evidence of work was not submitted with the exception of Keith's interview.

The explanations in the essays of what had been done were very descriptive, mentioning interviewing a local councillor and Dr Campbell's visit, for example, "We have interviewed a local councillor and asked her about the effects of energy and what wasting energy does to our local community. We also had a visit from a weatherman" (Mary). There was no mention in the essays of personal opinion related to an issue in their topic. However, Keith frequently spoke to me after class about the importance of his group and frustration that other pupils did not appreciate the importance of energy, and the difficulty of teamwork. Roby was interested in what the justice group were doing. Fiona expressed interest in becoming a social worker and I had a brief conversation with the group about fuel poverty. The volunteer commented that the pupils had made headway, focused on measures that could be taken to reduce energy consumption in the school. I found the majority of the pupils in the energy group uninspired and confused about the topic, if conceived of anything more than reducing energy consumption in school. However, when I spoke to pupils they were interested in linking the topic to concerns such as fuel poverty and research on renewables. The discussion on fuel poverty indicated that several pupils could have been very engaged

and considered the topic relevant to their own interests but this required mentoring to sustain such levels of enthusiasm and debate.

Future plans in the essays were equally descriptive not demonstrating a clear strategy or message, for example, “we still need to finish our documentary as we have our example timeline done...visit a wind farm. And visit St Andrews University again” (Kelly). The trip to the wind farm did not happen, one factor being problems with transport at the wind farm site. Their visit to St Andrews did not take place because the pilot project had not reached the stage to maximise the potential of such an intervention. I did not see the “example timeline”.

Several of the pupils made positive reference to what they were learning, for example:

“My attitude towards energy has changed greatly and I now think about how much energy I am using and wasting...In my experience of the energy group we have learned about our use of energy and what the consequences of our uses are” (Mary)

“In the energy group we have learned about the different uses of energy we would have never thought of, the positives and negatives of these uses and how effective or ineffective it is. I have also realised the small things I take for granted due to energy...I have learned about many different forms of energy and what they do in our environment and how big an impact they have on our day-to-day life, I have also learned about energy shortages and wars over energy” (Fiona)

However, the pupils’ comments were not supported with evidence of their research and thus the delivery of the pilot project did not facilitate critical analyses on the validity of their comments.

Group two: Entertainment

This group consisted of Kirsty, Rowan, Anna, Hayley, Sophie, Cheryl, Beth, Rebecca and Samantha. I had several conversations with this group on the potential focus for the group. Many of the pupils believed there was nothing to do in Torr. The group had engaged with primary school pupils asking what they liked, disliked, and would like to change about the area. Several pupils in the group had been very pro-active in interviewing a local councillor and a member of a large NGO hoping to work with people to improve the local area. The group was keen to speak to Tesco due to their

controversial influence in the area, although were unable to arrange a visit. I spoke to the group about how the topic had been interpreted at Auchencairn Academy and pupils appeared interested. Simon and I discussed plans with the group although without the pupils taking ownership there was no continuity in the discussions. The focus of the group became learning about a community radio station and potentially setting up a radio station at school. Pupils did not present an articulate introduction to the pilot project, however Kirsty made reference to valuing pupil voice and thinking about her local community: "In my experience with the entertainment group we have learned how to express ourselves more freely about our town" (Kirsty). In terms of what had been done pupils made very brief reference to the trip to St Andrews, the trip to a local radio station, interviewing councillors, and "additional initiatives". Kirsty commented on the feedback form "I didn't like the idea of this group because it meant stopping something we really enjoyed". This comment required further investigation but indicates serious challenges in responding to pupil feedback, as this comment was not acted upon. The feedback on the councillor is interesting as the pupils report slightly different versions of the "interview". This indicates that as initially planned pupils did not discuss issues that they wanted to raise before meeting the councillor. Cheryl made reference to the councillor's visit, indicating that she struggled to engage the pupils:

"Fred [a recovering drug addict] was lovely...things like that really motivate them...sort of real person rather than someone from the council. I think they felt a bit fobbed off from the council" (Cheryl)

What happened? (Me)

I don't know because I didn't see the interview but I get the feeling that they felt a bit fobbed off by her...I had no idea what happened. They recorded it but it didn't record. They said what about the buses, she said yeah I know, and then moved on. I don't think they feel like they got much" (Cheryl)

All reference to the documentary was vague, for example, "we have still to finish our documentary by shooting more things about our subject" (Rowan). However, pupils expressed support for a school radio station: "by the end of our experience we were thinking this [setting up a local or school radio station] would be a good idea for our town to get the voices heard" (Kirsty), and "We spoke to the women about setting up a radio station in Torr, which I thought was a good idea because it would let people get their point across about Torr" (Sophie). Kirsty commented,

“We drew a poster expressing our feelings towards a local MSP about how we have nothing to do in our town because of things like not enough buses to take us into other towns. We also expressed how we were outraged by the fact the MSP’s have kept us on a broken promise about the supermarket Tesco that was supposed to be built years ago and even though they “started” the Tesco build no work has been completed”.

It is interesting that the MSP was regarded as responsible for Tesco, a point that could have led to a critical discussion over the complex stakeholders involved with this local and highly controversial issue. Several of the pupils made reference to what they were learning; see Box 6.3 (5).

Box 6.3 (5): Examples of reference to learning in reflective overviews by pupils in the entertainment group in Torr pilot project

In my experience with the entertainment group we have learned how to express ourselves more freely about our town (Kirsty)

I have learned how to work a radio station and things I can do to help the community.....I have learned to be a bit more confident and speak to a group of people and get our ideas out. I have also learned that being a community can change things we want. (Cheryl)

I have also learned how to work in a team through these [interviews] (Rowan)

Group three: Food

This group consisted of Courtney, Alan, James, Kim, Chloe, Vanessa, and Kim. The following quote indicates Simon’s enthusiasm for potential, and very broad, areas for the food group:

“There is a clear link with the whole fair trade thing they are working on. The food ideas are in it. I’ve hesitated to say now look here is all the fair-trade material do you want to look at this and see if there are areas that you can talk about. It makes you really go and talk to the people that are in fair trade because they are doing the justice of food in Africa. I think that’s quite important for them to focus on. I think they are looking at it as people in Torr’s diet. That’s not necessarily what you want to do, you’ve got to talk about...you know pig husbandry and what should be done about it and free range eggs...There is a lot of things they can talk about...”

I had one conversation with the food group resulting in enthusiasm from pupils and a plan, which I drew up after our discussion, to investigate fast food and McDonalds. Despite initial enthusiasm, as Vanessa predicted, “this is going to be brilliant”, nothing

was acted upon. The conversation indicated that they needed support, were eager to engage when mentored, and that pupils were not present for all classes due to other tasks. Having discussed the plan I gave to the food group, a volunteer expressed concern that it was very biased against McDonalds. This raised the issue of resorting to emotive issues to provoke engagement and the potential to indoctrinate, albeit unintentionally, if the pupils are unable or unwilling to investigate issues.

Clara Buchanan was invited to the school to talk about her experiences as a fair trade activist and filmmaker and view and offer advice on the pupils' documentaries. With the connection to fair trade bananas her visit is considered under the food group. I hoped her visit would facilitate structure as pupils prepared for an outsider. I requested that all the groups would each show and discuss their plans for their documentary with her during her visit. However, she devised another lesson plan about fair trade.

The pupils did not demonstrate a clear understanding of the rationale for, or aims of the pilot project in their essays. In terms of what had been done pupils made brief reference to the trip to St Andrews, conversations about McDonalds, and "additional initiatives". It was clear that several group members had an understanding of expectations:

"During the discussion we talked about the issues regarding fast food in our community. Are there any healthy options locally and do we know where our food comes from? We also talked about the issue of McDonalds and the effect it has on everyone. We then returned to our school and appointed roles to each member of the group. After doing this we discussed what would be the best way to tackle this goal. We decided to create a questionnaire on the topic of McDonalds" (James)

"I have been involved in the food group...we have been looking at all the fast food restaurants in Torr and how unhealthy the community is because of them" (Courtney)

Again pupils indicated confusion over group identity and the following quote captures my concern that there was a tendency for pupils to drift between groups, and even along the corridors:

"Over the last couple of months we have been interviewing people who are involved in health, such as a paramedic and recovering drug addict. We have also been looking at how different communities affect the people which live in

them. How Torr would be a better community if there wouldn't be as much fast food restaurants" (Courtney)

Again, there were no clear causes or personal opinions expressed, although a couple of pupils indicated that there was a lack of healthy options for food in their community. In terms of personal opinion, one pupil explained that he had enjoyed watching Clara Buchanan's DVD as it was "good to see a clearer view of how lucky we are, and how more work should be done to help these people". There was no evidence of plans for future work in the essays. Several of the pupils made reference to what they were learning, for example, "During my times taking part in this project, I have learned that if I push myself I can produce good results. I have also improved my communication and teamwork skills" (James). However, claims were not convincingly justified with examples of how this learning took place.

Group four: Health

This group consisted of Lauren, Tom, Callum, Nicole, Jenny, Shannon, Tay and Marion. Simon was "completely reassured about the health group". This group was mentored by Cheryl and clearly had a more structured approach to the pilot project, in terms of defining a goal: "to find out about health in this area, what can be done to improve the health in our area, and highlight some of the health problems".

Fred, an ex-drug addict who had also been in prison, was invited to the school to talk to this group. Fred spoke to the whole class and pupils' feedback from his visit was very supportive, in terms of challenging stereotypes and the consequences of drug abuse. After the discussion, several pupils highlighted the influence older pupils have at school and expressed an interest in presenting to younger pupils on drug abuse. However, this did not materialise. The group submitted several filmed clips including a conversation with a local paramedic; clips of the local area; and clips of the conversation with Fred. However, despite having significant video footage the pupils did not edit it or work on an appropriate script. The group wrote, on a planning sheet, that they had learnt that "there are lots of problems with health in our area, what is currently being done isn't enough and we learnt peoples' opinions on health in Torr".

Mention of a chairperson in the essays indicates a more structured approach to the group work. Several pupils in the health group articulated an understanding of what they were doing, different to Simon and my original ambitions, for example:

“I was a member of the health group and our aim is to look into the health problems which our community suffer from and create a documentary providing this information” (Marion)

“The point of this programme is to learn about local and international issues and to learn that there are people worse off than us. It’s all about realising that these issues are globally unfair and wrong” (Tom)

In terms of what had been done, pupils made descriptive reference to the trip to St Andrews, research and documentaries, and “additional initiatives”. There was no clear message or personal engagement with causes in the essays, with the exception of the following quotes in Box 6.3 (6). However, all teachers present during Fred’s discussion with the pupils had remarked how engaged the pupils had been.

Box 6.3 (6): Examples of personal opinions expressed in reflective overviews, by pupils in the health group (Torr pilot project)

She [a paramedic] emphasised the extent to which drug and alcohol abuse affected our society as a whole, and made us realise that in fact drug and alcohol problems caused the most casualties within our community. And so made us realise that we should try to raise awareness of this (Marion)

I have enjoyed finding out about problems in my local area and globally. I have also enjoyed learning about people who have been at the heart of the problem and hearing how now that it has been sorted and have now got their lives back on track (Lauren)

We also plan to make a documentary; we hope that the documentary will be informative about how we can soon improve the health in our community (Jenny)

Few pupils indicated that the group had future plans, Callum explained: “We are yet to look into what health services are in our area to combat some of the problematic areas that we have identified. After this we will put our documentary together, which will involve editing our material so that it fits within the ten minute time slot that we were given to fill, we will then need to watch it, and discuss the issues”. Reference to the ten minute slot for the documentary highlights the confusing information given to the pupils. An understanding that “the documentaries that the groups have produced are going to be shared to important people in Barcelona” (Lauren) was interesting, and must have been informed by the teacher explaining our acceptance of an abstract for a conference in Barcelona, validating for the pupil that their work was important. Several of the pupils made reference to what they were learning; see Box 6.3 (7).

Box 6.3 (7): Examples of reference to learning in reflective overviews by pupils in the health group (Torr pilot project)

As a result of this, our group came to the realisation of how much drug abuse could destroy your life and how many people are actually leading their lives like this. We therefore, understand that drug and alcohol abuse is a large problem within our community (Marion)

I have learned how to work well in a team, but also developed new leadership skills. I have learned new problems about the world. Such as big issues and local issues in our area. This has made me more knowledgeable and more aware of international issues (Tom)

I have learned that working in a team is rewarding as you get to share each other's opinions on the different subject matters (Lauren)

I think that this has been a very valuable experience because it has allowed me to attain valuable skills like organisation, interviewing and communication skills, which I believe I can use in later life once [I] leave school (Jenny)

Overall, I believe that it was a positive experience and I believe it expanded our knowledge of issues that are affecting the wider world and our local area. It also gave us experience with working I.T. equipment and improved our ability to work within a team and cope with differences within the group (Callum)

Group five: Justice

This group consisted of Jenny, Alice, Rosie, Harriot, Jordanna, Nicole, Rhea, Katie and Melissa. Simon was positive about the justice group: "Fortunately, the justice group have other angles to pursue. They have got a fairly good head start because they have got Nami [from South Korea], Nadia [from the Roma community], they've got other bits of interview in the can. They should actually spend a bit of time editing it and looking at it. And maybe videoing local views, their own views. They're actually set". On another occasion, Simon expressed a broad understanding of the group's remit: "their focus has become very much interpreting justice entirely in the light of crime so they see justice as the police, getting lifted, being young and that sort of thing, they don't get it in terms of fairness of society...they need to move away from that to produce a far more rounded project".

Katie was especially driven at the start with plans to learn about different cultures and show that Torr was not as bad as many people thought. Katie was keen to make a documentary to help young people connect with different cultures; challenge stereotypes; emphasise to their peers that others have had difficult backgrounds; and also share their own views about Torr and discuss ways to improve it. Katie prepared for interviews, took ownership over the project, and clearly enjoyed the opportunity to learn and share her ideas. I helped to invite people to the school for her to interview, including people from South Africa, South Korea, Australia and the Roma Community. However, the plan for the documentary, *Big World, Small World*, was largely driven by

Katie, supported by myself and Simon. Therefore most of the interviews took place without working as a group and during lunchtime. Group cohesion played a role in this as, especially at the start, pupils tended to be doing “other initiatives”. After Katie left school we continued inviting people from different counties and cultures, including a member of the Jewish Council and a Syrian activist, addressed below.

Simon frequently linked work on a Holocaust memorial artwork to the justice group. When Simon and I spoke about the Holocaust, he indicated a failure to conceive Holocaust education as connecting to a sense of humanity and responsibility to stand up for people without a voice, including a potential bias towards Israel in the Israeli/Palestinian conflict. Katie explained that she “loved Jews”, a view formed through the Holocaust memorial work completed at school, and was excited about meeting a member of the Jewish Community at school, Mr Sandler. However, Mr Sandler’s visit was arranged after she left school and the group meeting him was unprepared despite briefing. The political sensitivities of the pilot project were raised during his visit and, having had a discussion about the appropriateness of shows of solidarity for people in the Middle East, a pupil contacted the campus police. The filmed recording was examined for a “racist comment”, potentially a reference to “westerners”, and mysteriously was deleted. It was clear that the pupils had taken a dislike to the visitor, potentially viewing the discussion as an argument and keen to support me. Reference to what was happening between Israel and Palestine was not raised due to a lack of confidence on my part to engage in a politically sensitive area, despite my commitment outwith the classroom to engage in such debates. Mr Sandler commented on the pupils’ lack of knowledge about current affairs and lack of causes. Many of the pupils required a lot of help to understand the content of the discussion that focused on how to bring about change; whether or not protests made the protestors feel good and nothing more; and involved me asking him about the need for a Jewish Council and what community meant to the pupils. After discussing the contents of the discussion in class, several pupils were inspired to “prove him wrong” and collate stories where people have made a difference. Despite initial levels of enthusiasm to collate stories and an animated discussion, evidence or work was not seen in class.

A Syrian man, Mounir, came to speak to the whole class about the situation in Syria and his views on non-violent resistance, again after Katie had left school. A large proportion of the class were unaware of the conflict and during his talk pupils were

clearly engaged. All pupil feedback was very positive, as demonstrated in the following quotes, taken from comments on his visit written immediately after he spoke with the class:

“Mounir was excellent. He clearly touched some people in the group. And made us think about the tragedy in Syria. The pupils left the session feeling deeply concerned about the problems in Syria and wanted to help out. Some pupils joined Facebook Groups. The pupils want to try and make a difference”
(Anonymous)

“It really made me think about my life and how people can change things and make the world a better place” (Anonymous)

“His drive to make a difference in the world inspired many people”
(Anonymous)

Many pupils commented that meeting Mounir was a very valuable experience “that allowed us to discuss things we wouldn’t have otherwise thought about”; that prompted thought about their own lives; and expressed a wish to help people in Syria. However, a couple of pupils were confused about the relevance of his visit. Their confusion highlighted the need to reframe the pilot project as the delivery, and pupil engagement, was not as originally planned. The explanation given was that he had been invited on behalf of the justice group but, as a person dedicated to improving his community and as an opportunity to meet someone from a very different background, it was decided that the class should all be involved. On retrospect, it was clear that as pupils were not being pro-active, a desire to ensure that they had support instead of “wasting time” developed.

During my discussions with pupils in the justice group it was clear that they were interested in the prison system. A visit from a lady who wrote to people on death row was cancelled, as she had engaged with non-violent yet illegal behaviour related to anti-war protests. This would have, I hypothesised, engaged the pupils in debate over appropriate behaviour for challenging attitudes given the very brief conversation I held with the pupils. Several pupils read my correspondence with an inmate on death row and this led to a discussion in which views on death row quickly changed and the pupils demonstrated that they could have taken initiative but required more support.

The MSP came to visit the school, organised by Simon. I believed that the plan was for the pupils to present on something that they felt strongly about, preferably related to their topic. All pupils were given a form entitled “the last 3 weeks of the

Community Involvement Project”, including expectations for the groups to give a brief overview (at least three minutes) of what they have done in their topic group and prepare one question for their MSP. However, the MSP’s visit centred on a Holocaust memorial artwork and pupils did not ask the MSP questions or discuss their views. The pupils allegedly involved in the artwork did not mention their participation in their essays.

In terms of group progress, I did not see signs of the pilot project progressing well after Katie left school. In terms of what had been done, pupils made brief reference to the trip to St Andrews, interviews, “additional initiatives”, research and documentaries. Reference to research and the documentaries in the essays did not indicate a clear group identity, or focus, and engagement with their topic. Mention of “interviewing” a Syrian man and recovering drug addict suggests that pupils felt they had achieved the project goals, although they had not met my expectations of taking ownership. There was recognition of what they could have been doing, but no evidence that the pupils had engaged in such a task:

“In our documentary we chose to ask people from different backgrounds, countries and societies their views on justice in the local community and also in the wider world. We interviewed a local councillor, a recovering drug addict, the head of the Jewish community, and a man from Syria. We also want to prove that Torr isn’t as bad as it is made out” (Rhea)

“I have been involved in the justice group and we have been looking at justice in prisons and I have enjoyed it” (Harriot)

Pupils indicated that they had valued the opportunities to engage with people “in the real world”, as demonstrated in Box 6.3 (8).

Box 6.3 (8): Examples of reference to learning in reflective overviews by pupils in the justice group (Torr pilot project)

The first person we interviewed was Fred, a former drug addict. Fred told us how he became dependent on drugs and the consequences that followed, mentally and physically. He also told us about the tragedies he has faced as a result of drugs. Our group came to the realisation that drugs not only affect your health both your life too...The following week, a paramedic called Lauren. She made it clear to us that drug and alcohol abuse is a much bigger problem than most people know (Melissa)

I have learnt a lot of information on justice and various other topics...Through meeting these people I have learnt about the experiences people have in jail and the difficulties after being in jail....I have also learned about how other people in different countries live their lives and about difficulties and problems these families have to suffer. ...I have really enjoyed this experience as it has helped me learn a lot about justice, and it has also helped me, by showing me that we can make a difference and we can help change things for the better (Jordanna)

This has been a very valuable experience. It has allowed me to think about issues that I wouldn't otherwise have considered. I have learned that I am more concerned about global issues than I thought I was. I have also realised that anyone can have a positive impact on the world if they are determined enough to make changes. ...I am now much more aware of global and local issues and this will hopefully allowed me to be a more effective member of society (Alice)

Since we started the course, I feel that I have gained valuable skills that can be transferable to other subjects and also jobs...I feel that I have attained valuable skills like organising, interviewing and communication skills which I can use in school and after I leave school (Rhea)

I have learned that working in a team is very rewarding as you share each other's opinions on different subjects...This experience was very rewarding and I believe that it will stick with me when I leave school (Kirsty)

In terms of reference to future plans, including comments on the aims of the group, two pupils explained that their documentary “will help our understanding of justice in other countries”, a different focus to the original aims. Despite the extent that personal opinions were expressed in their reflective overviews, the group appeared eager to discuss potential plans and share their views when I spoke to them on issues ranging from child soldiers, to whether or not non-violent illegal protests are justified, to whether or not people should be forgiven for horrific crimes.

As highlighted in the group overviews, the essays lacked evidence that the pilot project was perceived as cohesive. I am uncomfortable about the term “understanding” due to an appreciation that initial plans were substantially different to what took place in the classroom. Many pupils referred to the trip to St Andrews and were supportive, for example: “The trip to St Andrews was very useful. It allowed me to discuss issues with people who have had different experiences from me. As a result they had different views from me and it was interesting to discuss our different opinions” (Alice). However, few pupils made reference to the relevance of the St Andrews visit to class work. It was clear other initiatives were happening at the same time and a lack of group cohesion was evident. As is evident below, I considered that the essays indicated a lack of pupils engaging with causes; expressing personal opinion; perceiving relevance to their own lives; and taking initiative. There was little reference to the

documentary. In terms of what had been gained there was no reference to how they could, or their intentions to, “make a difference”. The essays lacked clear plans to progress. Despite pupils indicating that they had gained skills, claims were not justified or supported by my observations.

This section has provided an overview of what happened during the pilot project and an indication of pupil engagement and the quality of their work facilitated during the pilot project. Throughout this section my sense that the pupils were not facilitated to meet potential is emphasised, especially considering their indication of support for the pilot project’s aims and expression of interest when I held individual and group conversations. Through reflecting on the pedagogy in chapter seven, contributing factors that influenced the extent to which the pilot project’s ambitions were met are discussed.

6.3.4c The feedback forms

The mid-term and final evaluation feedback forms on understanding of the pilot project, progress and support are discussed in this section. This section collates the class feedback. No significant patterns between the groups were noted. The feedback forms were not anonymous due to a commitment to ensure a level of participation for acknowledgement in the form of a certificate. Pupils were told that their feedback would not affect whether or not they received a certificate, even if they reported that they made no progress and thought that the pilot project was a waste of time. The certificate acknowledged participation as follows:

“throughout the pilot project pupils: discussed and researched ideas for local community improvement and the creation of a more ecologically and socially just world, and developed confidence and knowledge to become an engaged and empowered citizen...Participation involved: critical thinking, taking initiative, developing research skills, discussions with a wide range of people, team work and input into future plans for a potential repeat”.

Pupils were given a course booklet, as presented in appendix 6.3 (8), and film clip to accompany the final feedback form. I compiled the course booklet and film clip based on conversations with Simon and the pupils during the pilot project, my initial plans for the pilot project, and the need for structure. The course booklet and film clip were developed in an attempt to engage the pupils in evaluating the ideas behind the pilot project, especially for those pupils who had missed a substantial amount of the project

and were confused, and provide a resource for other teachers to build on. The course booklet also indicated that I had listened to the pupils' feedback on structure and sought suggestions for improvements.

Mid-term feedback

The mid-term feedback questions stemmed from a desire for feedback into class attitudes towards the pilot project and also to facilitate reflection with potential to engage pupils in future classwork. Pie charts collating all pupils' responses are included in appendix 6.3 (9).

The first question focused on understanding. Pupils' self-reported understanding on the rationale behind the pilot project was high: 72% of pupils ranked their level of understanding as 1 or 2 (1 indicating high levels of understanding, 5 indicating low levels of understanding). However, 12% of pupils ranked their level of understanding as 5 indicating they had not understood the project. Pupils were then asked to explain how they understood the reasons behind the pilot project and whether or not they thought that it was important. Twenty-five pupils commented. Few pupils expanded on a general acknowledgement that it is important to get young people involved in their community. A few exceptions, as presented in Box 6.3 (9) are acknowledged that made reference to encouraging pupils to: think more globally; talk about their community and identify ways in which problems can be solved; and help pupils learn key skills:

Box 6.3 (9): Examples of pupils articulating the reasons behind the Torr pilot project, expressed in feedback form

I think the project is important because we have been given a good opportunity to get involved in the community. It creates a stronger sense of community because we have helped people to change the bad things" (Mary)

"The reason for doing this project is: bring pupils together, to create a sense of community, to make us think about how to improve our community and to give us an opportunity to make a difference" (Callum)

"I think it is important because it's given young people the opportunity to talk about their community and tell people what we like and what we don't like about it and what we can change" (Lauren)

"I understand through the experts that have come in and spoke to us. It then gave me a different perspective on things. It creates a sense of community. It had made me a responsible citizen. And made me think in a positive way" (Tom)

"I think it is important to do this project to improve our community. The more we think about our community the better it will become and the happier people living in the community will be. This will create a stronger sense of community" (Alice)

"I think it is important because young people need to know how to get their thoughts and ideas into their local community" (Keith)

It is important because the number of people who try to make a difference in this generation is appalling. People underestimate what they can do nowadays. Very little is taught in school on this subject" (Alan)

Rebecca explained she "had no idea" about the reasons behind the pilot project, Tay explained that "I haven't been involved in the project", and another pupil explained that she had "participated very little due to having to complete other projects" (Chloe). These answers were supported by my reflective notes on the lack of class cohesion, and missed opportunities for pupils who understood the pilot project to help their classmates.

The second question focused on progress. A high number of pupils indicated that they were happy with their progress. Sixty eight percent of pupils ranked their progress as 1 or 2, on a scale ranking 1-5 (1 indicating high levels of satisfaction with progress, 5 indicating low levels of satisfaction with progress). The pupils were asked to explain their answers on how they ranked their progress. The responses indicated a lack of group cohesion. For example, not all pupils in the entertainment group referred to setting up a school radio station, and another pupil in the energy group referred to an eclectic range of activities: "I have taken part in interviewing the Jewish man, Fred, paramedic, councillor, and also went to primary school. I have phoned [the local primary school] to arrange visits. I have helped with recycling. I have also done research on eating disorders" (Mary). Few pupils alluded to challenges or opportunities. A notable exception was the following comment: "Sometimes it gets very repetitive and the work rate of the group slows. It is challenging to chase clients for

answers but presents opportunities for learning key life skills” (Alan). Keith indicated that group work was a challenge, his comment also implying that the group work was not perceived as a joint effort: “the challenges that I faced was to get the people in the group to do the things that they were asked to do”. There were various positive comments. Jordanna explained that “It allows you to build your self-confidence and work in a team better than you may have been able to. It pushes you to come up with your own ideas and opinions on the issues”. Several pupils in the justice group referred to doing interviews, for example, “We have interviewed lots of people and done lots of research. We have learned a lot but it was challenging at the start until we decided what we wanted to focus on” (Alice). Four pupils referred to thinking about and helping the community, for example, “It got us to think about our community and it gave us the chance to act on it” (Melissa). However, due to my presence in the class, and little evidence or justification, I am unsure about how they helped their community. It is notable that the question elicited answers that indicated a level of understanding of the original rationale for the pilot project: “It challenges us to think about our community and its problems and it gives us the opportunity to act on the problems by putting the plans in actions” (Callum). As encapsulated in the following quote, class understanding of the opportunities this pilot project provided varied: “the challenges are trying to work as part of a team and the opportunities are gaining a certificate for participating” (Rosie).

Pupils were then asked about the impact of the pilot project: whether or not they were learning anything that they perceived as relevant for them after leaving school; whether or not their thinking about an issue had been challenged; and whether or not they had shared their ideas and tried to influence someone relating to their ideas on how to make their community better. These questions aimed to engage the pupils in reflecting on the aims of the pilot project in addition to providing feedback. When responding to a yes/no/ on’t know question on whether or not they thought that their learning during the pilot project would be relevant after school, a high proportion of pupils, 72%, reported that their learning would be relevant after school, and 28% indicated that they did not know. When responding to a yes/no/ don’t know question on whether or not working in the St Andrews groups had challenged their thinking on a particular issue, a high proportion, 80%, indicated that it had; 16% indicated that it had not; and 4% reported that they didn’t know. When responding to a yes/no/don’t know question on whether or not they had shared ideas or tried to influence someone

on how their local community could be improved, a high proportion of the pupils, 84%, indicated that they had; 12% didn't know; and 4% indicated that they had not.

The last question focused on support for the pilot project by asking pupils whether or not they thought the pilot project should be repeated with another class and in what way the pilot project could have been improved. Sixty eight percent of pupils supported a repeat; 28% of pupils indicated they didn't know; and 4% reported that it should not be repeated. It is important to emphasise that a much higher percentage of pupils indicated that the pilot project had been beneficial in response to the previous questions on impact related to relevant learning, challenging thinking and sharing views and influencing people. This calls into question the consistency and reliability of pupils' responses. In terms of negative comments relating to whether or not the pupils supported a repeat, Kirsty responded: "It was too many people making it boring". Two other comments raised the issue of the difficulty of taking part with exams close and the benefits of a study period, for example, "Yes as it could help the community etc BUT it is a very lengthy and repetitive process and is hard to take part in when there are exams coming up" (Marion). Harriot explained that she "didn't really understand it". All other comments were positive about encouraging young people to engage in their community and trying to make a difference, for example, "This project is extremely useful in thinking about your community and the rest of the world. The challenges faced during the project have tested us and allowed us to learn a lot about ourselves" (James). In terms of explicitly changing mindsets, there was reference to getting young people motivated and helping people become "more open-minded" (Nicole). Two pupils mentioned that it was good for young people to be asked what they thought about issues and "have a say". Only Rhea mentioned the teaching approach, "It gives you an opportunity to do a project on your own without teachers which is a valuable skill for in employment". There was reference to the potential of initiating change within the school, for example, "If you work with more classes that means a wider range of young people will help with their community" (Cheryl) and "Over a few years we could make Torr a much better place" (Rebecca). Twenty-three pupils commented on how the pilot project could be improved. The need for more structured and clearer goals was referred to by 12 of the respondents. For example, "From day one of the course, let the pupils know exactly what they are doing to avoid confusion, except [from] this the programme needs no improvement" (Tom). One pupil explained that "There should be an aspect of the project which allows the individual to

address local or global problems which they would like to tackle” (Rob). This raised questions over how he had interpreted the project. Suggestions included working in bigger groups, working with less pupils in the class, two pupils explained that it should be more “fun and interactive/interesting” (Rosie), and a couple of pupils said that it would be improved by getting more people to interview. The problem of group cohesion was evident, for example one member of the entertainment group explained: “It was a good class and I think not much needs to be improved” (Cheryl) which contrasted with another member of the entertainment groups comment, “Doing a lot more rather than sitting doing nothing for two periods” (Rebecca).

Final feedback

The final feedback also asked about support for, and understanding of, the pilot project.

The first question asked pupils if they thought we should ask the Scottish Qualifications Authority if the pilot project could be a subject in school based on their experience, and the course booklet, see appendix 6.3 (8), and to explain their answer. Forty two percent of pupils indicated that they didn’t know; 37% of pupils indicated that we should; and 21% of pupils indicated that we should not. Twenty-six pupils provided a comment. Many comments lacked reflective justification. A few pupils made reference to the original aims, in indicating that it should be a school subject:

“It gives us the chance to find out about global issues and issues locally. It allows us to get our points across” (Lauren)

“Communities that we live in are important so to have a class that gives you the chance to help improve it is a good class” (Cheryl)

“I think it is a good opportunity to learn about things people don’t know much about” (Sophie)

Three pupils said that it was boring. Several pupils indicated that it was best not to be a subject, as referred to below:

“I feel that you gain more by doing it out of your own time. It’s better to flaunt to others that you do it in your own time” (Tom)

“I feel that it is more of a topic that benefits from not being a school subject” (Callum)

“It would be fine to keep doing this subject only two times a week” (Marion)

Two pupils said that more experience of the pilot project would determine whether or not it should be a school subject. Few pupils mentioned the “real life” aspect of the subject, as mentioned by Keith: “It explains what it is like in real life and what is happening around you”.

The second question asked pupils what they thought of the course booklet and the video clip; to make suggestions for improvement if required; and to explain if either the video clip or the booklet gave a misleading description of the project. All the comments were positive but very general, for example, “I thought that they were very good” (Callum). Several pupils who expressed an understanding that the course booklet and video “gave an accurate representation” raises concerns over the seriousness in which they engaged in reflection. No pupil indicated that the booklet looked like a structured version of the course that had not been delivered. No pupil suggested improvements for the course booklet.

The following set of questions focused on pupils’ understanding of the pilot project, whether or not they thought that the “Community Involvement course”: had required taking initiative; had given them the opportunity to learn about something that they were interested in, and made them think about ways for local and global improvement; and was considered valuable. In response to whether or not the pilot project had required taking initiative, 75% of the pupils indicated that the community involvement course required taking initiative; 21% indicated that they did not know; and 4% indicated that it did not require initiative. Pupils may not have understood the word “initiative”, an area that required more research. However, considering pupil led learning was a key aspect of the pilot project this indicates high levels of misunderstanding about the aims and normative pedagogy underpinning the pilot project. A high percentage of pupils, 83%, indicated that the pilot project had given them a chance to learn about something they were interested in; 13% indicated that it had not, and four percent indicated that they didn’t know. A high and equal percentage of pupils, 96%, reported that the community involvement course had both encouraged them to think about local and global improvement and was valuable; and the remaining 4% indicated that they didn’t know if it had provided such an opportunity or was of any value.

Pupils were then asked what advice they would give a pupil interested in taking the course (i.e. whether or not to take it, something that helped you understand it, how to get the best out of it). This question aimed to engage pupils in reflection through

encouraging them to articulate their understanding of the pilot project and what was required to benefit from the pilot project. Twenty-four pupils commented, including a “don’t know” (Jade). However the answers were very short and pupils tended not to expand on their answers, such as “It’s a worthwhile experience and an enjoyable experience” (Jenny). Only Jade’s comment was negative: “don’t take it, it’s boring”. Only Roby said that you should take it if you wish to work hard; Callum advised that “you should have a structured plan”; one pupil explained “take it as it helps you think about the world rather than just your community”; three pupils mentioned that it would look good on a CV; two pupils said that it was different from the other subjects; Marion said that “it gives you the opportunity to make a difference in your community”; and Melissa explained that “it is a wonderful opportunity to help in the community and share your ideas”. If theory had been successfully translated into action answers such as, it enabled us to learn about something we were interested in; share our views and build confidence in presenting solutions and alternatives ideas; and made us think about our role in the future, would have demonstrated success. If pupils were being honest, improving the structure and class cohesion should have been emphasised, as included in their responses to the following question. Thus, although not negative, considering the logistical issues as presented under teacher feedback and the absence of opportunities to facilitate and evaluate pupil work, a desire to please me could have accounted for the positive responses.

The last question focused on the potential challenges and opportunities for a repeat. Nineteen pupils commented on this question, including “don’t know” and “no idea”. Six pupils said that it should be more organised. For example, Alan commented, “try and get pupils to understand it and take it seriously. Add a timeline to it, a schedule so that pupils do things on time” and Rhea suggested, “Have it more organised so pupils have a rough idea what they are doing”. Few pupils indicated challenges related to pupils’ mindsets and abilities. Keith predicted that a challenge would be ensuring “pupils learn to take responsibility in working together and taking charge so that they will listen to one another”. Many answers needed expanded upon such as “use the same teachers” (Kelly); “the eco-garden” (Kirsty); “working on a larger scale” (Rowan); and three pupils mentioned visits, which I interpret as an opportunity. Chloe explained, “I think it should just be the same course as it gives you an insight to the rest of the world”.

The mid-term and final feedback forms resulted in an opportunity for pupils to express their opinions on the pilot project. The questions posed sought to engage pupils with the aims of the pilot project. However, for the evidence-based research that I sought to conduct on the pilot project, deeper questioning and pupil reflection was required. The pupils' responses were more positive than I expected considering the quality of work demonstrated. As highlighted, many pupils made reference to the need for more structure.

6.3.4d Informal discussion with pupils

A period of evaluation was planned after the completion of the pilot project. However, the teachers were away and therefore I took the class alone with a covering teacher. This was an eventful period with the covering teacher arriving during the middle of the period and disrupting a relaxed atmosphere of overviewing the pilot project with refreshments. The covering teacher shouted at me without realising that I was not a pupil and generally led to a very tense atmosphere. Therefore instead of focus groups in which the pupils worked together and I guided the reflection, I spoke to individual small groups. Informal discussion throughout the pilot project indicated pupils were needing more support and mentoring, and were very interested in the aims of the pilot project and tasks if adequately supervised. The pupils' feedback indicated that the pilot project's potential requires further investigation and basic criteria should be followed to ensure that pupils' feedback is incorporated into delivery. Such basic criteria are outlined in Box 7 (1) under a discussion over pedagogy, and included a clear structure and ambitions for the pilot project.

6.3.5 My reflections after Torr pilot project

This section comprises of my initial feelings on leaving, and position in, the class; my scepticism about pupil feedback; ideas that were not developed; and the influence the pilot project had on the research questions, or rather the presentation of the research in the discussion and concluding chapter to answer the main research questions.

On leaving the class, I felt frustrated that original plans had not been delivered and we had failed to meet potential, despite the resulting resource developed, see appendix 6.3 (8). The pilot project had constituted a large emotional, time and financial investment, far larger than the first. I felt a great sense of failure that, despite the effort and enthusiasm about the pilot project (the pupils', mine and the teacher's), the pupils

had not been offered the opportunities, gained similar skills, and increased confidence evident during the first pilot project. I also felt, and still do feel, a reluctance to end the pilot project due to the glimpses of potential evident and conviction that higher expectations of the pupils and a clearer structure would have resulted in a learning experience that would have benefited the pupils akin to the first pilot project. However, as detailed below, I considered the insights gained through the pilot project as potentially a very valuable contribution to knowledge, in part due to the challenges thus highlighting important areas to focus on in improving EfS implementation.

I was present most periods, although my role as support was hampered by confusion over the lack of structure, as originally discussed with the teacher and required for delivering the pilot project. However, my position also provided an insight into how engaged the pupils could be when given more support. My position in the classroom also led me to be sceptical about the positive feedback from the pupils due to the lack of a comprehensive model delivered and the quality of the pupils' work. Indeed, the pilot project served to highlight that taking pupil feedback at face value without evidence of their understanding, or rather more in-depth reflection, may not adequately reflect the learning experience. It is noteworthy however, in the spirit of respecting pupils' agency and despite concerns pupils may have been eager to please me, the level of support for the ideas behind the pilot project. At various points, pupils had demonstrated an eagerness to participate but were not adequately facilitated to do so. As demonstrated, much of the pupil feedback indicates support for engaging with their community; researching and sharing their views on issues that are important to them; and that they valued the opportunity to meet people outside the school. It is also important to emphasise that my expectations for the pupils' work were high, especially as a result of working with a highly engaged English class at Auchencairn Academy.

There were many ideas that were not acted upon during the pilot project, as acknowledged in the write up. Table 6.2 (3) also outlines plans for the second pilot project, written by me after the completion of the first and supported by Simon, that were not developed. Plans not developed include, for example, building on the resources developed during the first pilot project; focusing on individual and group reflection; ensuring good knowledge of the class to tailor delivery depending on abilities; and repeating the community event. Plans that did materialise as outlined in Table 6.2 (3), such as involving more teachers and drawing more on outsider

engagement, resulted in interesting insights discussed in the following chapter. An NGO continued aspects of the pilot project in the form of the radio station, not discussed in this thesis. However, their involvement was at an inconvenient time for Simon and myself and rather than an opportunity I found their involvement stressful. This was perhaps due to my stress over the pilot project and additional job. However, as I reflected in my diary, the NGO led to confusion over the ownership of the pilot project by “kiddy backed on my contacts a little too early, having said they wouldn’t”, and issues related to insufficient briefing; money without clarity of responsibility, including my involvement with the NGO and Simon’s role; and our plans to set the radio up as an outcome of the pilot project.

On completing the second pilot project my key concern was how to present the data to aid analysis and discussion on linking theory to practice relevant to the implementation of EfS in Scottish secondary schools. Throughout the pilot project the challenge of focusing on “empowerment”; the political sensitivities of the pilot project; striking a balance between indoctrination and neglect; and the differences in the schools’ approaches with the “outside world” emerged. The experience in the school provoked thought over how to engage the disengaged and highlighted the vital importance of structure and high expectations to ensure the pupils, rather than the ‘teacher’, contribute to the debate. As is evident from Simon’s feedback form expectations for the pilot project, and EfS, were low; the other initiatives did not engage with the concept of EfS as endorsed in this thesis; and the quality of pupils’ work completed compared to the first pilot project indicated very different abilities of the teacher and pupils to address EfS. On leaving the class, I decided that although the in-depth evaluation as originally planned was not appropriate, I had insights into the wider system and challenges that were just as valuable as the focus of my originally proposed research design. However, I was eager to continue with initial plans through analysing the pilot project with reference to the thinking modes, as addressed in section 7.4*b*. Through comparing the pilot projects, it was evident that the pedagogy had provided opportunities and challenges. Therefore an analysis of pedagogy, drawing on practice and policy, was considered an appropriate heading to discuss the learning from linking theory to practice relevant to the implementation of EfS in Scottish secondary schools, see section 7.4*c*.

The experience of action research was more challenging than during the first pilot project. This strengthened my desire to incorporate reflections and discussion on

action research, including my personal learning and the way in which the final research in the classroom related to my normative understanding of action research as set out in chapter three.

It is my intention to contact Simon after this submission, and discuss the findings. However, due to family pressures this must be separated from submission of the thesis.

6.4. Chapter Summary

The chapter has documented a practical response to my idealistic idea about EfS. The main focus of this chapter is the presentation of the form of the pilot projects, including the teachers', the pupils' and my own perspective, based on the theory of EfS and action research as discussed in previous chapters. Although the theoretical starting points of the pilot projects were very similar, the resultant delivery was very different. The chapter started with scoping discussions with teachers, as part of the preparation for the pilot projects, that raised themes relevant to the practical implementation of EfS and the extent the policy context facilitates EfS. These conversations are included in the write up as an opportunity to include additional teachers' voices in the final discussion on EfS implementation. The main focus of the chapter documents how Maria, Simon and I worked with the theory, as discussed in chapter one, two, three and four and translated it into action.

The documentation of the pilot project presents aspects valuable to authentically share the experience. Such aspects include milestones constituting the pilot projects and an overview of group work; and also my attempts to present the class profile and approach to the pilot project; the teacher profile; the extent and nature of evaluation; and an indication of opportunities and challenges. Thus, the pilot project write ups present the ambition to draw the reader into the immersion in practice, into this messy field setting and the resulting questions: how and what can I, and should I, capture to present important aspects of the pilot project based on the realities and capacities of the school environment? The pilot project write ups constituted reflection on how to honestly present and interpret experience in the classroom, given the challenges of facilitating in-depth reflection and discussion, particularly concerning the second pilot project. The write up of the chapter reflects a striving to be faithful to the epistemological approach and aims set out in chapter three, including the importance

of: an in-depth documentation of the steps taken whilst implementing the project; the blurring of results and methods constituting the cyclic nature of action research; and reflection as key to the validity criteria for the research and as a fundamental aspect of self-development as a researcher.

The analysis of practice, theory and policy informing the discussion and conclusions from linking theory to practice, relevant to EfS in Scottish secondary schools is the ambition of the following chapter. Thus the following chapter locates the learning from the pilot projects with reference to underpinning literature concerning: the key considerations for EfS; the methodological approach and the way in which the pilot projects relates to the normative understanding of action research as endorsed in chapter three; the four thinking modes as a conceptual framework to understand, guide and evaluate practice; and the analysis of pedagogy for EfS.

Chapter Seven

General Discussion and Conclusion

7.1 Introduction

As stated in the introductory chapter, this thesis proposes fundamental areas to consider in developing a strategy for EfS; and discusses the insights from linking theory to practice relevant to EfS implementation in Scottish secondary schools. This chapter reunites the theoretical framework and practical fieldwork and critically analyses the contribution of theory to practice and practice to theory guided by such a remit.

Environmental deterioration and social injustice (WWF, 2012; IPCC, 2012*b*; UN, 2013; Symonds, 2015) highlight the discrepancy between “educated” and “wise” and, by corollary, call into question our approach to education. Thus, the research has been shaped by a desire to develop and deliver an idealistic yet practical strategy for EfS. The thesis therefore aims to address and articulate key considerations for developing a strategy for EfS, as returned to in this chapter through reference to five key threads. It is my hope that the thesis has avoided the tendency, noted by Broadhead (2002, 47): ‘When documentation is complete, human involvement seems to be erased. Text seldom conveys the emotional, intellectual and ideological endeavours, the arguments, debates, experiences and decisions of participants involved in its creation’. The thesis aims to: deliver a holistic synthesis, drawing on theory, policy and practice; and transcend traditional dualisms, as is integral to action research, such as researcher and subjects; theory and practice; results and methods; the macro and micro (Herr and Anderson, 2005); and strives to unite my personal voice with academic rigour. Faced with a range of interpretations of what constitutes EfS, the concepts of utopianism and design were proposed as original and potentially useful to understand, guide and evaluate EfS. The concepts are considered as the theoretical starting point of the pilot projects and are linked to an analytical framework in chapter four to clarify the concept of EfS endorsed in this thesis. The pilot projects resulted in insights into the status of EfS in secondary schools; raised opportunities and challenges to deliver EfS theory; and offers new theoretical insights into EfS implementation, as discussed in this chapter. The challenges of undertaking action research as a postgraduate student led to adjustment of the original research design

and to reflection on the status of action research in academia, contextualised with relevant literature. The thesis highlights the potentially promising policy context to facilitate EfS in Scotland, but also the practical challenges to implementing EfS, as discussed in this chapter.

Following this introduction, the second section returns to the first part of the main research question and summarises fundamental concerns to qualify the nature of EfS, as endorsed in this thesis. The third section, in keeping with the structure of the thesis, returns to and reflects on the methodology informing the research: including the personal learning arising from the research; and the extent to which the final research relates to the normative understanding of action research and assumptions about validity informing the telling of ‘the story’ (see Lotz-Sisitka and Burt, 2002). The fourth and fifth sections address the lessons learnt about EfS in Scottish secondary schools, through reference to the original framework for analysis and the pedagogy that resulted in the very different learning outcomes. Thus, after a brief recap of the theory and conceptual framework originally informing the pilot projects, in section 7.4a, I reflect on the role of theory in the classroom. I engage with design and utopianism through reference to the four thinking modes. Thus, the nature of EfS and the degree to which EfS was addressed is discussed through analysing the pilot projects in light of the four thinking modes in section 7.4b. Section 7.4c specifically focuses on the concerns and lessons learnt about pedagogy resulting from the pilot projects, contextualised with reference to the policy critique. The chapter concludes with suggestions for a continuation of this research, in the form of a third pilot project; and broader recommendations related to future research to facilitate EfS through policy, aimed specifically at Scotland’s regional centre for expertise, Learning for Sustainability Scotland⁹. The epilogue is presented as an informal ending that, together with the prologue, reinforces the recognition of the personal journey to the reader. Thus, I end the thesis by returning to the kitchen table where I had sat with my Dad and discussed Design and utopianism as fundamental and useful concepts for EfS, see prologue. This time, my Mum asks “tell me, in lay language, what is it about, what did you learn?” Therefore, I conclude with an informal summary of the thesis, ‘free from the disruptive (and distorting) effect of the formal academic voice’ (Stapleton

⁹ The decision to aim recommendations at LfSS was made on the basis of its role as a community of interest in discussing and advancing EfS implementation.

and Taylor, 2004, 9).

7.2 Key considerations for EfS

The thesis questions what key considerations are important to develop strategies for EfS. The thesis thus questions: how we fare as a society and what sustainable development means; ways of knowing that are appropriate in the 21st century, including the approach to research, the role of education and potential theoretical underpinnings for EfS; the extent that current Scottish educational policy and secondary school curriculum facilitate EfS; and what a practical strategy to deliver EfS in the classroom might look like, given the theoretical framework endorsed in this thesis. The five key threads which constitute this thesis, arising from the above questions, are: the case for change; the theoretical underpinnings of EfS; the methodology; the practical insights into the form of the pilot projects; and the resulting reflections on monitoring and evaluation, for EfS in the classroom and for completing a PhD through action research. The threads highlight the significance, understanding, complexity and potential of EfS, and serve as a structure to signpost the reader to the relevant discussions. This section briefly addresses the threads as fundamental to share the worldview and idealistic understanding of EfS from which this thesis is written.

Thread one: The case for change

The first thread, the case for change, stresses the underlying rationale for the thesis. The call for 'sustainable development' has grown from a world in which, as Gray *et al* (1996) highlight:

'a major characteristic...is the constant barrage of seemingly unconnected images about the world in which we live. These images might seem to convey both 'good news' and 'bad news' about the conditions of human existence in roughly equal proportions. However, it is highly probable that the 'good news' and the 'bad news' are closely related - that, to a degree at least, they are two sides of the same coin'. (Gray et al, 1996, 1)

Thus the thesis is a response to a case for change and the need for sustainable development as presented in the second chapter (Rockström *et al*, 2009; WWF, 2012; IPCC, 2012*b*; Cardinale *et al*, 2012; UN, 2013). The thesis is, equally importantly, a response to potential to foster interest and reinforce intrinsic values that will support

compassion and energy to re-think and participate in working towards sustainable development (Schumacher, 1975; Porritt, 2005; Crompton and Kasser, 2009). Indeed, sustainable development is a controversial concept, open to diverse interpretation and as such in need of clarification (Redclift, 1987; Becherman, 1994; Robinson, 2004). The thesis highlights key considerations related to behavioural change, discussed in chapter two: reinforcing the importance of engaging with both individual and structural change, engaging with identity and values and the importance of hope (Crompton and Kasser, 2009; Shove; 2010). Chapter two highlights that conceiving sustainable development is not conceptualised as “small and painless steps” or following set environmentally friendly behaviours. Fundamental aspects of the understanding of sustainable development endorsed in this thesis were outlined in chapter two, including the importance of recognising our Earth identity; a recognition that sustainable development is a contested and controversial concept; a consideration of behavioural change in the current capitalist society; and aspirations to conceptualise my understanding of sustainable development. The focus of this thesis is based on the aspiration for people to engage in the meaning of sustainable development and the relevance this has for their own lives. Five key aspirations to justify such a focus were outlined in chapter two, further qualifying the understanding of sustainable development that has informed this thesis. The following aspirations were articulated as an aspiration not to lose faith; an aspiration to encourage increased participation; an aspiration to engage with our self-identity and celebrate existing values that support sustainable development; and an aspiration to value non-academic and academic knowledge.

The research seeks to engage pupils in the case for change and empower them to develop their own understanding of sustainable development. The meaning of EfS developed in this thesis is re-iterated below.

Thread two: theoretical underpinnings for EfS

The main focus of the thesis is EfS, the second thread, as key to responding to the case for change. Reference to this thread is brief, as I return to the theory behind the pilot projects in section 7.4a.

The presentation of the case for change and sustainable development is key in introducing the theoretical underpinnings for EfS as endorsed in this thesis. Indeed, research on behavioural change emphasises the inappropriateness of conceiving EfS

as a set of pro-environmentally friendly behaviours. Rather the ambition for EfS is focused on systems thinking; future thinking; an emphasis on values and priorities and action competency, as expanded on throughout the thesis and spanning both individual and structural change. Chapter four highlighted the need to engage philosophically with the role of education. In discussing the understanding of EfS endorsed in this thesis, environmental thinkers and educational philosophers, including the influence of constructivism, were acknowledged. A radical and appropriate understanding of the role of schools presented in this thesis is not conceiving their normative function as primarily transmitting culture, but rather preparing pupils to be predisposed to questioning and challenging the society in which they live (Sterling, 2001; Orr, 2004). Chapter four expanded on the potential theoretical underpinnings for such a challenging ambition, including appropriate knowledge for the 21st century and an overview of key discussions EfS has provoked in academia. Such discussions raise important issues to address in conceptualising EfS, addressed under the following themes: considerations pertaining to terminology; indoctrination and values; hope versus despair; delivery through cross curriculum or one subject; and evaluation and assessment. Indeed, the meaning and focus of EfS is controversial (Jickling, 1992; Bonnett, 1999; Hesselink *et al*, 2000), the consequences of which and the aforementioned themes raised in the academic debate are returned to in light of practice, under section 7.4c, analysis of pedagogy.

The thesis proposes a conceptual framework for EfS, summarised in section 7.4a that aims to contribute both to the theoretical discussion and the practical implementation of EfS. Both the concepts of design and utopianism were discussed as encapsulating the aforementioned thinking modes in section 4.6. The meaning of the key thinking modes (future thinking, system thinking, questioning values and priorities and action competency) are brought to life in practice, as discussed in section 7.4b. Indeed, there has been much debate over what issues comprise sustainable development (see White, 2013). The concept of EfS developed through practice is discussed in section 7.4b, including the pre-selected themes informing the pilot project; the extent that the ambition for pupils to engage with their Earth identity informed the delivery of the pilot projects; and the potentially confusing range of visitors contributing to the second pilot project.

Chapter five critiqued the extent to which EfS is facilitated through policy and is evidenced in practice. Chapter five reiterates the importance of engaging with the

philosophy, and role, of education and as such the theoretical underpinnings of EfS. Considering additional school initiatives with reference to the conceptual framework is included in section 7.4c.

What is new in the definition of EfS emerging from this thesis is addressed in terms of how the four thinking modes can potentially contribute to qualifying EfS; and the subsequent identification of opportunities and barriers to facilitate pupils to critique the *status quo*, and develop and share alternative visions of a sustainable future.

Thread three: The importance of an appropriate methodology

The third thread is the importance and nature of the methodology as action research, frequently associated with the field of education and sustainability research (Robson, 2002; Brydon-Miller *et al*, 2003; Herr and Anderson, 2005). As addressed in chapter three, important characteristics of my methodological approach, which may differ from traditional research include the explicit commitment to change through reflection and action; the place of theory; the positionality of the researcher; and the blurring between results and methods. Action research, with the focus on practical change; reflection; and working *with* people to empower, value practical and local knowledge and build capacity, is justified as an appropriate and important shelter for this research in section 7.3. Thus the methodology informing this thesis celebrates the desire to facilitate practical change as opposed to unbiased research and objective conclusions. As such, my role was never to become an ‘expert’ in EfS but rather to work with teachers and pupils to investigate the practicalities of theory in classrooms and contribute to the theoretical and practical debate on EfS implementation. Reflections on my role are included in section 7.3a and 7.3b. It is important to acknowledge that there are many different understandings of what constitutes action research and relevant critiques of participation, including the importance of not considering the methodology above critique in blindly serving the greater good of society (see McTaggart, 1991; Isenberg *et al*, 2004).

The research was fuelled by a commitment to include pupil and teacher voice in the debate over EfS, which as discussed in section 5.3a is a relatively under researched area. As emphasised under thread five, despite a commitment to include pupil and teacher voice in my thesis, a concern with authenticity arose during the pilot projects. My growing interest in self-development through action research, and as such my ability to facilitate pupil and teacher voice, is addressed in 7.3. Section 7.3

comprises of a critical reflection over my position as a researcher; how the research changed my own perspective of the field and how the research could have been improved and developed. The personal lessons learnt resulting from the methodological approach, the challenges, opportunities and evaluation criteria are reflected upon. Section 7.3 is inspired by Klocker's (2012, 159) paper offering a personal insight into action research and PhDs and highlighting the need to discuss challenges and compromises on idealistic methodological standards to present 'a more energising and balanced portrayal' of action research PhDs. An important aim of the thesis became to contribute to the sparse body of literature addressing action research from or for a PhD student's experience (Melrose, 2001; Dick, 2002; Fletcher, 2002; Herr and Anderson, 2005; Burgess, 2006; Klocker, 2012). The unique fieldwork contributes to the discussion of 'real action research' and appropriate validity criteria for an epistemological position endorsed in the 'sustainability literature' (White, 2013). Thus the research serves as an example to reflect on the challenges and opportunities resulting from the methodological approach, presenting an example of intended 'action research', with various methods to facilitate pupil feedback as detailed in the previous chapter. This chapter contains a discussion on the influence of the normative understanding of action research on practice, including reference to the evolving research questions; the final write up; and the validity criteria for action research in a postgraduate context outlined in section 3.2c. The insights that this PhD offers for those embarking on an action research PhD is discussed in section 7.3 in terms of the personal learning arising from the research, the extent the research lived up to initial aspirations of action research and reflections on the evaluation criteria for the PhD.

Thread four: Practical insights into the form of the pilot projects

The fourth thread comprises the pilot projects: the practicalities of translating theory to action in secondary school classrooms, based on my original conceptual framework, see section 6.1.2. Chapter five highlights the need for more evidenced based research on EfS implementation, especially from teachers' and pupils' perspectives, see section 5.3a. Having introduced the theoretical and conceptual framework for EfS in chapter four, the extent to which current Scottish educational policy facilitates EfS in secondary schools was considered in chapter five, informed by a close reading of key policy documents and academics in the field. The thesis engages with policy in order to frame the pilot projects in a language for teachers; and contextualise concerns and lessons

learnt arising from practice with reference to policy.

The pilot projects are both documented in detail in chapter six: including teacher and class profiles; timelines; key aspects of the pilot projects; the resulting evaluation in terms of teachers' and pupils' support and understanding of the pilot projects; and my own reflections. The pilot projects resulted in two very different projects influenced by time and teacher input and availability and the evaluation was shaped by the classroom and capacity. A key issue was the form of a model for EfS that would emerge through linking theory to practice, both theory related to EfS and action research. This part of the question has been addressed through the in-depth sharing of the research journey in chapter six. Through the documentation of the pilot projects, the raw details of attempts to structure the class and facilitate pupil feedback are shared with the reader as a fundamental part of the research journey.

This chapter discusses the insights into EfS at a secondary school level arising from the pilot projects through analysing the impact theory had on the delivery of the pilot projects and articulating lessons learnt relevant to educational policy and a continuation of a potential pilot project. In discussing EfS implementation, it is important to recognise the limitations of the school, including the current employability crisis that shapes young peoples' abilities for self-determination as an area that was out with the scope of this thesis (Martin and Ainley, 2012; BBC, 2014).

The way in which the pilot projects shaped my understanding of EfS theory, or the proposed conceptual framework, is discussed in section 7.4*b* in relation to the theoretical underpinnings and resultant analytical framework for EfS. Contextualising the learning from the pilot projects in relation to current policy is addressed in 7.4*c*, through reflections and analysis of pedagogy suitable for EfS.

Thread five: Reflections on monitoring and evaluation

The fifth thread, the challenge of monitoring and evaluation, pervaded the thesis in terms of the pupils' and teachers' responses to the pilot project and the validity criteria for PhD research, and thus overlaps with thread three and four, the methodology and pilot project.

The commitment to, and challenge of, monitoring and evaluation for EfS in the classroom was integral to the pilot projects. There is debate over how to evaluate learning associated with EfS (Nagel, 2004; Woolfson *et al*, 2009; Kerr *et al*, 2009). Evaluating for EfS is a challenging and controversial area, as highlighted in section

4.4. Indeed, monitoring and evaluating EfS is an area in need of further research as highlighted in chapter five: both concerning evaluation during and directly after project implementation and the longer term impacts of EfS. This quest to monitor and evaluate was intimately linked to the challenge of balancing the delivery and evaluation of the project. Key questions became: how do we appropriately evaluate EfS; what do we evaluate for and what methods are appropriate? The different teachers' and pupils' capacities to engage with monitoring and evaluation, with a focus on reflection, highlight the importance of basic criteria to improve engagement with EfS theory, as presented in Box 7(1). Reflections on the way in which we monitored the pupils' response to the pilot project are included under my perspective at the end of each pilot project write up. The return to the theoretical underpinnings presents a framework to evaluate EfS, including specific suggestions related to the pilot projects. In order to celebrate the pupils' voice and engage the reader in the classroom environment, pupils are frequently quoted. However a concern with the authenticity of pupils' responses arose during the second pilot project, when my understanding of the project clashed with positive feedback from pupils about their learning experience. This issue is returned to under the section on teachers' confidence and ability to facilitate pupil led learning (section 7.4c), highlighting the challenging reality of evaluating EfS.

The research offers an account of, and reflections on, monitoring and evaluating during the pilot projects and highlights the importance of pupils and teachers learning how to critically reflect, and how to facilitate such reflection, respectively. Reflections on monitoring and evaluation in the form of validity criteria for a PhD pervade the following section on the methodology. The significance of the analytical framework to evaluate and discuss the nature of EfS constituting the pilot projects is offered as a key outcome of the research. The search for appropriate methods to monitor and evaluate challenged original plans, as presented in Table 3(1). In hindsight, the project provides a grounding to reflect on, and offers specific insights on monitoring and evaluation for similar future projects related to project implementation, as suggested in 7.5a.

7.3 Reflections on the methodology

The methodological approach underpinning the development of a strategy for EfS was an integral part of the research. Throughout the research I was concerned over the appropriateness of action research for a PhD, a concern supported in the introduction

to chapter three. This section reflects on the challenges and nature of action research developed and in doing so contributes to the call to celebrate attempts at action research within a post graduate context (Klocker, 2012). This section comprises of three sub sections: an acknowledgement of personal learning; a discussion on the way in which the pilot projects were influenced by the normative understanding of action research as set out in chapter three; and reflections on the way in which the validity and evaluation criteria, also set out in chapter three, were employed in the presentation on the pilot projects.

7.3a Personal learning

I draw the thesis to conclusion aware that the last six years have constituted 'transformative education' for me at least. As indicated in the introductory chapter an aim of the PhD was not only to produce a convincing and competently argued 'thesis', through an increased understanding of the themes discussed in the previous section, but for personal development that would inform my future outlook and decisions about what area to focus my energy. This stance is valued by Maguire (1993, 175), who discusses research that 'is not only about trying to transform social structures 'out there' and 'the people', it is about being open to transforming ourselves and our relationships with others'. In addition Miller (1994) writes about the importance for those involved in action research to share their emotional reflections so that others can learn from their experience, including the painful, frustrating and challenging experiences.

As outlined in the methodology chapter, reflections on the research are important for sharing the authenticity of the research journey (Maxwell, 1996; Robson, 2002; Reason and Bradbury, 2008). They emphasise the worldview from which it is written, increasing the validity of the research, and also aiding in developing the theoretical sensitivity as a 'reflective' practitioner (Lotz-Sisitika and Burt, 2002; Moon, 2006). The justification in the methodology chapter has, I hope, provided space for commencing on a reflective and personal note (Stapleton and Taylor, 2004; Herr and Anderson, 2005). I submit in the thrall of potential, that I have only just established how to do research and, armed with the experience of the two pilot projects, reluctant to bring this thesis to a close. The pervading sense that I could have done better is cause for frustration but also celebration that throughout this journey I have improved my approach to research and understanding of the field.

The process of studying for a PhD has led to questioning over what comprises valuable and appropriate research for the award of a Doctorate, specifically in the social sciences (see Mullins and Kiley, 2002). Indeed, Winter *et al* (2000) discuss the 'current crisis of representation and knowledge' in a discussion on criteria for practice based PhDs. The different departments and institutions of my two supervisors espoused different views on the approach to PhD study: first, a period that includes 'self-development' in which risk and creativity are encouraged; and second, the defining of answerable research questions in which the PhD thesis will be the ultimate product of the years of research. I hope the final thesis reflects the influences of both approaches.

Looking through my diary, it has been clear that the PhD pushed me beyond my comfort zone and into a realm of complexity in which, at various times, I felt unarmed with the right questions for the clearly defined research design, a key criterion for a PhD. However, this exploration, in which I was immersed on both an academic and emotional/personal level was key to my personal quest in learning more about the practice of EfS. Indeed, my experience resonates with Lotz-Sisitka and Burt's (2002, 148) reflection that 'learning from research happens through the experience as much and perhaps more than the learning that takes place from the conclusions, a move away from answers to experience'. From the beginning there was a degree of stress in finding a school, concern over whether or not I was qualified to offer anything valuable to the pupils and teachers, and whether or not I was capable of working with the pupils. Once in the second school, I was fuelled on potential based on the experience of the first pilot project: at times, a rather exhausting state, as expanded upon below. This resonates with Moore's (2004, 155) warning that action research requires a 'high degree of self-awareness, reflexivity and a large amount of time and energy'. It is important to acknowledge therefore that the research provided an opportunity to engage in learning not easily captured in academia (see Pain, 2009), including developing my confidence to engage with young people from different backgrounds; and to frame my understanding of EfS suitable for practice when presenting ideas to both teachers and pupils. The research also influenced my future plans. Research commenced driven by environmental and mainly 'global' social concerns and an interest in youth engagement and desire to work with disengaged youth developed through the pilot projects, influenced by the contrasting expectations of pupils from the two schools. An interest in the employability crisis and opportunities

for pupils eager to ensure their jobs are informed by their ideas about sustainable development developed through speaking to school pupils.

This section concludes through identifying two areas that could have improved the research, given the realities of the field as opposed to being orientated towards future research discussed later. These two areas are returned to in the following discussion on the role of the original theory and the trade-offs made between the complementary aims of running the pilot projects versus evaluation. First, I should have accepted that I was going into the unknown and the ‘messiness’ of action research (McNiff, 1988, 45). As a PhD student I found it difficult to appreciate the value of considering methods as results in terms of expectations for evaluation. This resonates with the threat identified by Archer (2008) of ‘unbecoming’ a researcher that characterises ‘young academics’ approach to research. During the write up I discovered literature which would have been beneficial at the outset of the research in supporting my choice of methodology and articulating challenges I encountered (Winter *et al*, 2002; Moore, 2004; Pain, 2009; Moss, 2009). Indeed the challenges of engaging with action research in a postgraduate context have been discussed by others (Dick, 1993; Winter *et al*, 2000; Klocker, 2012). Dick (1993) and Klocker (2012) address different themes which provided great comfort in the write up of the thesis, as I sympathised with the challenges identified. The challenges of action research are discussed by Dick (1993) who emphasises that:

‘You take on responsibilities for change as well as research. In addition, as with other field research, it involves you in more work to set it up, and you don’t get credit for that...’

It doesn’t accord with the expectations of some examiners...

You probably don’t know much about action research...

You probably can’t use a conventional format to write it up effectively...

The library work for action research is more demanding...

Action research is much harder to report, at least for thesis purposes....

An action research thesis is likely to be longer than conventional thesis...’

(Dick, 1993, 10)

A more recent paper by Klocker (2012) highlights that such issues are prevalent twenty years on in her discussion over concerns related to action research¹⁰ and PhDs,

¹⁰ Klocker refers to Participatory Action Research.

including: the chronology of events; timeframes; measures of success; the individualism of PhDs and the collectivism of participatory action research; institutional versus participatory ethics; a lack of support and training for action research PhD students; and dealing with judgemental literature. Second, it is speculated that the research could have resulted in a more rewarding and less stressful experience if I had clarified expectations and roles, especially the basic criteria to improve engagement with theory presented in Box 7 (1), under analysis of pedagogy, section 7.4c. My role was initially as a facilitator eliciting views, participating in the co-delivery of the pilot projects, and responsible for the final write up. However, participating in the co-delivery of the pilot projects was very broad. A memorandum of agreement could have been developed to clarify aspects that I had initially taken for granted, as discussed below.

Much of the personal learning related to action research in a post graduate context, is considered as an area that would be unwise to expand on with specific examples considering my position as a student but which I hope will fuel future reflections and writing. The following sections embed the personal learning with reference to theory, policy and practice.

7.3b Returning to the normative understanding of action research after practice

This section considers the way in which the normative understanding of action research, outlined in chapter three, influenced the pilot projects. Thus, this section returns to the pillars of action research and hence the appropriateness of the methodology to frame the thesis. Indeed, there exists a debate over whether or not action research in a postgraduate context is appropriate and feasible (Hubbard, 1996; Moore, 2004), as acknowledged in the introduction to chapter three. Hollingsworth's (1997) review of action research projects highlight the variety in interpretation over what constitutes action research and Dick (2002) maintains, contrary to colleagues, 'I do not believe that action research must be participative...I think it is a family of research methodologies that pursue the dual outcomes of action and research'. Therefore, in response to different understandings of action research, key influences informing my understanding and normative commitment to action research are highlighted in chapter three. As is frequently the case, the research resulted in changes to the original research design. Key features characterising this research resonate with the pillars of action research as justified and endorsed in chapter three

(McIntyre, 1997; Moore, 2004; Herr and Anderson, 2005). I reflect on the thesis as action research through reference to the themes discussed below. The themes comprise of the commitment to respond to the case for change through contributing to EfS implementation; the merging of results and methods as the research was influenced by the teachers' and pupils' capacities; and the commitment to working with people, despite the extent to which the teachers were able to act as co-researchers. The opportunities and challenges of action research are then expanded upon under the following themes specific to the experience of the pilot projects: the locus of control and role of the original theory, delivery versus evaluation, and the write up. The way in which the evaluation criteria for action research as set out in section 3.2c informed the presentation of the pilot projects is returned to in the following section, expanding on the appropriateness of action research to frame this thesis.

The commitment to contribute to addressing the case for change was firmly established as the reason for undertaking the research. The importance of the aims of this research were emphasised in chapter five, including the need to engage with EfS in the classroom, and unite theory and practice; and the importance of monitoring and evaluation for EfS, in terms of teachers' and pupils' perspectives. As stated in section 3.4 the initial aims for the research included developing a pilot project that was practical, evaluated and, if deemed appropriate, would result in resources that others could use. Thus the potential for an enlightening and enriching learning experience for pupils, the teacher, and myself was the underlying ambition that fuelled the research. The action research method was deemed appropriate for this investigation geared towards a practical contribution to EfS implementation: in terms of understanding of the field; usability of the data; and my own personal learning, as briefly reflected upon. My immersion in practice had the advantage of gaining a thorough understanding of the teachers' and pupils' approaches to EfS, as reflected upon in each pilot project write up. The way in which the roles and responsibilities emerged naturally contributed to a more realistic picture of schools' engagement with EfS and the challenges. The schoolwork that was developed is in a form that teachers could use and develop as the abstract ideals have been translated into practice. As Maria remarked, she would have been confident going into a boardroom of teachers and sharing our learning. The learning arising from the second pilot project informed the resources written for pupils, as included in appendix 6.3 (9). Unfortunately, consideration of the extent to which the teachers have built on their experience of the pilot project is outwith the scope of this

thesis due to my time constraints, common in action research. Klocker (2012, 154), for example, highlights the way in which time constraints can pose particular difficulties for action research PhDs and the importance of writing a thesis without the action research project coming to a 'neat ending' (Maguire, 1993; Moss, 2009).

The thesis celebrates and justifies the importance of the blurring of results and methods as I strived to work with, rather than on, teachers and pupils. Indeed, the flexible research design and evolving methodology was essential in ensuring that the research was based on the challenges and opportunities of 'the field' (Reason and Bradbury, 2001; Herr and Anderson, 2005). The ambition to provide an in depth documentation of the research journey in terms of how the pilot projects developed in the classroom, including attempts at evaluation and the re-framing of the research questions, was realised. However, as opposed to initial plans to involve pupils and teachers in analysing progress with reference to the four key thinking modes, the pilot projects resulted in insights into the challenges of working towards such learning objectives. The use of the analytical framework was employed mainly after the completion of the pilot projects. The original framework for delivery and evaluation was adapted after the first pilot project; see Figure 3 (1).

A key point of reflection is, and was throughout the pilot project: did my working relationships with the teachers live up to my original aspirations? This overlaps with the discussion on the role of the original theory underpinning the pilot projects. Many have conceptualised the different stages of action research (see for example Bassey, 1998; Kemmis and Wilkinson, 1998). For the purpose of this research, the stages are considered as follows: the initial meeting to discuss expectations of action research; the continuous co-design of the pilot projects including the evaluation; and the final write up. As discussed in chapter six, the extent that theory, principally teachers as co-researchers and my role in the co-design of the pilot project eager to build on the conceptual outline underpinned these stages, varied. In both pilot projects the initial stage resonated with the ethos of action research. In the first pilot project expectations were met during the co-design and delivery of the pilot project. I was responsible for the final write up, discussed below. However, in the second pilot project, my understanding that I was contributing ideas that were translated into practice and that the teacher and I were both engaged in critical reflection with the ability to work with pupil feedback gave way to a more challenging and confusing pilot project. As emphasised in chapter six, the pilot projects highlighted teachers' lack of time and

capacity to develop curriculum material and engage in action research, as returned to section 7.4c *analysis of pedagogy*.

The opportunities and challenges specific to this research are discussed related to: the role of the original theory and the trade-offs made between running the pilot projects versus evaluation; and considerations for the final write up. Indeed there are significant overlaps between the role of the original theory and the trade-offs made between the complementary aims of running the pilot project versus evaluation. The role of the original theory underpinning the pilot projects was very different in both pilot projects despite similar original ambitions, as discussed in section 7.4b. During the first pilot project, the influence of the concepts of design and utopianism were much stronger, as expanded on in section 7.4b. This was reinforced by the commitment of the teacher ensuring an outcome in the form of presentations to the community, which consolidated learning. However, during the second pilot project the original theory wasn't clearly delivered: due to a range of factors plans frequently did not materialise, including the fundamental aspect of reflection by all parties involved, key to a good action research project. During the second pilot project the planning was more 'organic' and less structured: and there existed a rather exhausting tension between the PhD commitment to research, and the outcome for the pupils, in terms of frustration that the project had unrealised potential if we could only keep to the original theoretical underpinnings and the structure. As suggested above, a memorandum of agreement could have been developed for the second school to clarify aspects of the pilot project that I had initially taken for granted, including the importance of class numbers, class location, the role of supporting teachers, and expectations for minimum criteria for work. Whether or not a more formal arrangement in which I communicated via e-mails would have provoked reflection on progress by both teachers and pupils in this specific situation would have been an interesting area to investigate. Despite concerns over the role of theory in the classroom the pilot project led to valuable insights into the potential challenges of EfS delivery. Due to confusion over the role of the original theory throughout the delivery of the second pilot project, I struggled with the 'two hats' of both aspirations for delivery and evaluation. This provoked thought over whether my primary focus should be on initiating a project, as discussed with the teacher, and it developing, without too much intervention; or whether my primary focus should be on ensuring that the project is delivered faithful to the initial plan, as discussed with the teacher. Although delivery and evaluation were considered as complementary, the

ownership over the second pilot project made enacting plans for the evaluation extremely challenging. This raised questions over the extent I was in a position qualified to take the lead in challenging and changing the course of the project. On a personal level, my quest was very focused towards generating inspiration for the pupils and ensuring the pilot project met my idealistic expectations. However, as discussed below, I struggled to do this without having included provisions for the challenges encountered during the second pilot project in the research design. Indeed, in retrospect the first pilot project potentially reinforced a false sense of confidence in my role as an action researcher. In terms of my role as an action researcher, this differed greatly between the schools as demonstrated in chapter six. The teachers engaged differently in reflection and therefore the extent to which they were 'co-researchers' varied, despite the original ambition to ensure that both teachers were involved in the development and evaluation of a comprehensive model, addressed below. The 'quality' of the data resulting from the pilot projects was influenced by the trade-offs made between the complementary aims of running and evaluating the pilot projects. Rather than reflecting a failure to complete the initial and ambitious aims for research, as proposed in the detail of my PhD discussed with Simon, the 'quality' of the data is considered integral to the pilot projects. Literature on action research (Elliott, 1981; Kemmis and McTaggart, 1982; Herr and Anderson, 2005) highlights the importance of valuing methods as results, highlighting the value of reflection on such trade-offs and our capacities to develop and evaluate the pilot projects. However, in retrospect I am frustrated that co-operative enquiry as introduced in section 3.2c was not of the quality during the second pilot project that I had initially expected. Indeed, in explaining the importance of co-operative enquiry Heron (1981) stressed that people may not be an authority of their own constructs and intentions. Such a concern is particularly relevant to the second pilot project in which conflicting, and a lack of evidence to support, views on monitoring and evaluating the groups' progress are expressed by the teacher, as evidenced in chapter six. Although the insights resulting from these challenges are highlighted as valuable contributions to understanding EfS implementation, this section suggests that more preliminary work should have focused on developing two memoranda of agreements to support a more rewarding learning experience for the teachers, pupils and myself. Additionally the memorandum of agreement could support evaluation in the context of confusion and concerns over the direction of the pilot project in a manner that would not engender feelings of blame or

disappointment. It is proposed that the first memorandum of agreement would relate to the theoretical underpinnings for EfS; and the second would focus on engaging the teacher in reflection as a co-researcher, hypothesised to be particularly useful when encountering challenges related to the original theory and classroom plans.

The write up, as discussed in chapter three, was viewed as 'an integral part of the research process' (Lotz-Sistika and Burt, 2002; see also Atkinson, 1991; Meloy, 1994; Stapleton and Taylor, 2004). The ambition to involve the reader in the research journey informed the write up: to appreciate the urgency and potential of EfS; the complexity of translating theory into practice in the classroom; and the resultant 'sense making'. The style of the write up, in terms of celebrating my subjectivities; working through issues of validity through explicit reflection; the importance of an in depth account of 'what happened'; and the accessibility of the language, is justified in chapter three. Ideally, I had plans to involve the teachers in the write up of the pilot projects in the spirit of action research. It was speculated that the write up would constitute a fundamental part of the pilot project in terms of encouraging teacher reflection and framing of the pilot projects. However, due to time and teacher capacity, this was not feasible. Concerns exist over action research and the risk of reinforcing power relations due to the responsibility of the PhD candidate to produce the thesis and ownership of the research (Herr and Anderson, 2005). Similar to Klocker (2012) I employed a cognitive separation when writing the thesis: my thesis and 'our' research. Admittedly, this was an area that caused angst as I initially felt that I had failed to become the empowering researcher I had dreamt would be possible when I first met the two teachers, a very naïve approach for a first action research project with time and financial constraints. It is thus important to stress my hopes for a continuation of 'our' research. It is important to acknowledge that the final write up of the pilot projects was shaped by decisions to exclude certain themes in the spirit of co-knowledge generation and respect for participants. Such themes included in-depth discussion of teachers' attitudes towards the class and their aspirations for the pupils; and in-depth discussion on the teachers' abilities to work with other teachers, ability to provide feedback on class progress and abilities to do what was planned. My engagement with action research required reflection on the presentation of research, including the challenges encountered during the pilot projects, in a manner that would protect the professional integrity of the schools involved.

7.3c Evaluation criteria for an intended action research PhD

As outlined in the third chapter, the evaluation criteria for research are different depending on the methodological underpinnings and when working with thinking subjects (Lincoln and Guba, 1985; Maxwell, 1992; Richardson, 2000; Robson, 2002). Moore (2004, 160) supports the inclusion of this section through arguing that ‘we need to consider how we evaluate academic success before moving PAR [participatory action research] into our classrooms and graduate theses’, a common and constant concern throughout my research, especially during and after PhD reviews to assess my progress. This section clarifies the way in which the validity criteria, as outlined in section 3.2c, informed the presentation, interpretation and contextualisation of the pilot projects. As such the section expands on the previous, re-emphasising the way in which the methodological approach underpins this thesis and reflects a commitment to academic rigour and evaluation criteria. A slightly different structure to 3.2c was considered appropriate for this section: a return to Robson’s (2002) understanding of rigorous social science; how the relationships improved the validity of the thesis; the way in which I addressed Richardson’s (2000) evaluation criteria; the importance of reflection; and the significance of triangulation to overcome the threats to validity as identified by Maxwell (1992).

Robson (2002) referred to rigorous social science as comprising of systematic, sceptical and ethical research. A key criterion for systematic research is the ability to present an engaging and holistic understanding of the research remit and clear line of argument: ‘what you are doing, and how and why you are doing it’ (Robson, 2002, 15). The defining feature of real word research: the blurring between content and context and the ‘Law of the Hammer’ (Kaplan, 1964) has been overbearing in this research leading to the definition of guiding sub-questions for a coherent thesis; see Table 1 (1). Systematic research as defined by Robson (2002) also requires being explicit about the nature of observations and the researcher’s role in making them, as described in 3.2c. This is addressed in the following paragraph on reflection and triangulation. The commitment to sceptical research is addressed through referring to the threats to validity as articulated by Maxwell (1992), under triangulation. The ethics of action research were under theorised in this thesis (see Zeni, 1998; Eikeland, 2006; Brydon-Miller *et al*, 2006). Throughout the research the teachers were valued as the professionals in the classroom with ultimate responsibility to value the delivery of a

learning experience that would benefit the pupils in terms of CfE, as is their professional duty.

My relationship with the teachers and pupils, and reflections on such interactions, was considered integral to the ethos and validity of the research. An ambition to engage teachers and pupils in developing EfS was the reason for undertaking PhD study, as detailed in the introduction to chapter three. Thus my research was fuelled by the commitment to practical knowledge and developing roles that would not lead to an unequal power balance, as is frequently the case in traditional academic research/non action research. The relationships developed during the pilot projects were not only essential in meeting the aims for practical knowledge generation and developing classroom material but important in improving the validity of the research in terms of facilitating an authentic presentation of views (McTaggart, 1998; Melrose, 2001). Indeed my role as a researcher, including my ambition to incorporate Heron's (1996) approach to co-operative inquiry as outlined in section 3.2, led to challenges, identified in the previous section. However, as detailed under my perspective at the end of each pilot project, I was able to hold informal conversations with the pupils seeking clarity on their concerns and level of understanding not captured through other feedback mechanisms. I was also able to discuss, and clarify the meaning of key concepts that the teachers held about EfS. Thus the relationships of mutual respect gave me more confidence in the validity of the feedback, including times in which respondent bias may have influenced feedback as highlighted in chapter six. The extent that the relationships shaped the research is highlighted through reference to the flexible design and evolving research questions.

Richardson (2000) articulated five inspirational criteria for ethnography approaches as introduced in section 3.2c, under the following themes: substantive contribution; aesthetic merit; reflexivity; impact; and expression of a reality. My engagement with Richardson's (2000) questions for evaluating research pervade the thesis. The substantive contribution is summarised in chapter one; reflections on aesthetic merit are included in section 3.3; and the impact of this thesis in terms of original and valuable knowledge generation is highlighted throughout this chapter, and the epilogue. Evidence of self-awareness and reflexivity are integral to the methodology endorsed in chapter three, and addressed below. Richardson's (2000, 254) final question is on the extent to which the research seems true: 'a credible account of a cultural, social, individual, or communal sense of the 'real''. This raises

the question over audience and whose reality I was seeking to engage, with relevance to the presentation of the thesis as discussed in section 3.3 on style. This question is key to action research and the contextualisation that seeks to bridge the divide between 'high theory' and practice in the classroom: valuing both practical (from pupils, teachers, and classroom implementation) and theoretical knowledge as equal whilst ensuring the framing is appropriate for PhD criterion.

At many points overcoming threats to validity required relying on the importance of reflection and identification of such threats in order for the reader to judge for themselves the significance of the 'findings'. Throughout the pilot project I kept a research journal and had debriefing sessions with the teachers after each session. My own reflections and world view stipulated at the start of this thesis, and woven into the project write ups, was important in addressing 'researcher bias' (Lincoln and Guba, 1985; Maxwell, 1992) for two reasons. First, to present a holistic understanding from which the thesis was written and second, to clarify my own assumptions and become a 'reflective practitioner'. Engaging others in reflection was integral to the pilot projects with the overlapping aims of deepening learning, contributing ideas to the pilot project and improving the evaluation, the challenges of which are included in the previous section. Throughout the pilot project, debriefing sessions were held with the teachers after each session, helping understanding and interpretation of practice, as returned to below.

Triangulation as a strategy to enhance rigour was attempted, as addressed in section 3.5, including methods and observer triangulation (Denzin, 1978; Howe, 1988; Greene, 2007). The extent to which this was possible is reflected on at the end of each pilot project. As is demonstrated in chapter six, teacher and pupil feedback was sought through a variety of methods: reflective essays; informal discussions; my own reflective notes; presentations; feedback forms; and peer interviews. A key research question emerging was how to improve the quality of the evaluation, as addressed in the pilot project write ups, through questioning whether or not we provided appropriate feedback mechanisms for the pupils. Suggestions to improve such evaluation for a potential third pilot project are proposed in section 7.5a building on the experience of the first two pilot projects. The triangulation of data gathering methods was endorsed to capture pupil feedback and led to different opinions being expressed. Similarly a commitment to include the teachers', the pupils', and my own is demonstrated in chapter six. Both methods and observer triangulation help address the threats

identified by Maxwell (1992), as evidenced below.

Throughout the research I was aware of the potential threats highlighted by Maxwell (1992) to qualitative data gathering, including incompleteness or inaccuracy of data (descriptive); the imposition of a theory which hampers appreciating what is emerging from the research (interpretation); and the failure to consider alternative explanations (theory). In response to the first threat, the description of the pilot project is aimed at immersing the reader in practice through providing an in depth account of practice, detailing the teacher and class profiles, the timelines, the mechanisms for pupil feedback, the challenges and the attitudes towards the pilot project from the teachers', the pupils' and my own perspective. Thus, where data may be inaccurate or incomplete, for example, due to respondent bias or the challenges of enacting plans for evaluation, the data is contextualised and discussed to address such a threat. The triangulation of data gathering methods resulted in conflicting opinions being expressed, considered a benefit rather than a problem with the research design. For example, the tone of the conversations I held with pupils during the second pilot project encouraged them to express concerns over structure not emphasised in the feedback forms. The pupils' feedback in gaining skills contrasts with my concern that pupils were not facilitated to understand and progress with the aims of the pilot project. The clashes in pupil feedback could have provided the foundations for more reflective learning if time and appropriate capacities permitted. The final thesis values all the feedback as an authentic attempt to understand the pupils' perspective. The threats of wrongly imposing an interpretation of what happened and not considering alternative explanations are addressed through becoming self-aware of my own subjectivities and engaging the reader in an in-depth account of practice drawing on different perspectives. I sought to address my own subjectivities through my own reflective writing and through conversations with teachers and pupils akin to the peer debriefing session advocated by Robson (2002). Indeed, chapter six reflects the desire to engage the reader in an in depth account of the pilot project with pupils' and teachers' perspectives. The engagement in practice influenced my interpretation of the pilot project as I engaged with the classroom and pupils as opposed to ambitious and neat theory, as reflected upon below.

7.4 Education for Sustainability

7.4a Returning to theory behind the pilot projects

This section recaps on the original theory underpinning the pilot projects (related to sustainable development, the pedagogy, design and utopianism) before reflecting on the role of theory in the classroom and thus examining the nature of EfS delivered.

The pilot projects are based on a vision of society and, as such an understanding of sustainable development, underpinned by aspirations not to lose faith; to encourage increased participation to engage with our self-identity; to value non-academic and academic knowledge; and to celebrate existing values that support sustainable development, as proposed in chapter two. Such a society would celebrate the opportunity in the crisis rather than focus solely on the impending disaster. The thesis is based on an understanding that education has a key role in conceiving sustainable development, as discussed in chapter four (Morin, 1999; Sterling, 2001; Hicks, 2002; Orr, 2004). The thesis emphasises the need to question the appropriate approach to education framed by such a fundamental and challenging task, as addressed in chapters four and five. Figure 7 (1) introduces the model of EfS presented in this thesis, developed after the completion of the pilot projects and influenced by discussion with the teachers and classroom experience.

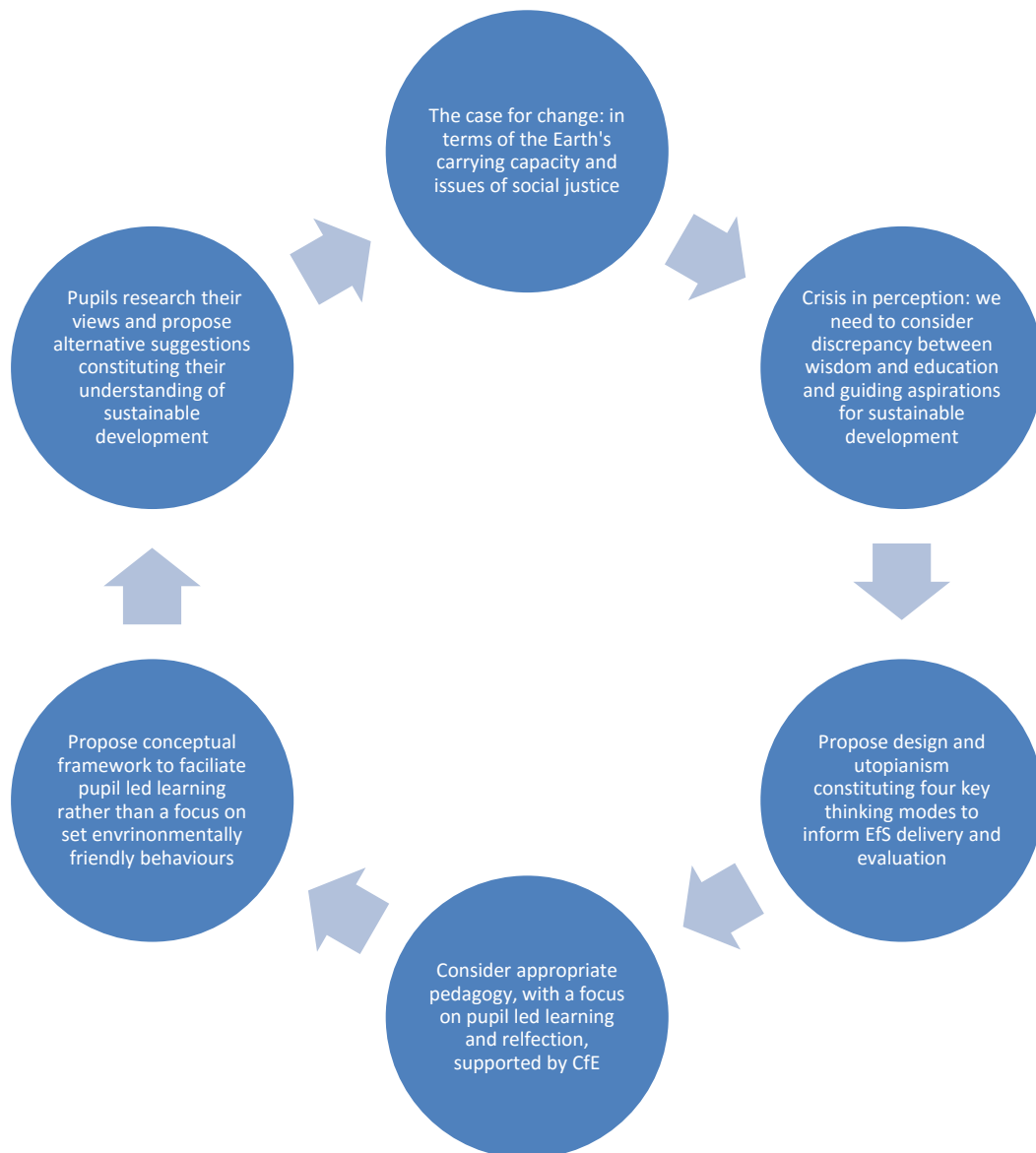


Figure 7 (1): Model of EfS presented in this thesis

Critical education, as discussed in chapter four, was drawn upon to provide an appropriate foundation in terms of the approach to knowledge and pedagogy endorsed (Hicks, 1998; Freire, 2000; Fien, 2003). Critical education conceives education as inherently political, grounded in human emancipation and reflection to conceive positive change. Thus the status and nature of EfS endorsed in schools cannot be separated from the Government's broader approach and commitment to sustainable development. Critical education is not about depositing knowledge into passive learners but facilitating learners to become more conscious and develop their own responses to societal problems. As such critical education requires pupils to be engaged with the rationale for learning, eager to take initiative, and to question their

own underlying assumptions. Critical education blurs the distinction between the learner and teacher: conceiving the teacher as both a facilitator of learning and also a learner, as the pupils come to the classroom with valuable knowledge. Stenhouse's (1975) understanding that 'curriculum research and development ought to belong to the teacher (142)' and 'it is not enough that teachers' work should be studied: they need to study it themselves' (143) resonates with the methodology underpinning this research, discussed in chapter three, and ambition to consider the teachers as co-researchers. Critical education is endorsed in this thesis with an awareness of the potential challenges and risks of the pedagogy associated with constructivism (Bowers, 2005). For example, as Fox (2001) warns:

'Constructivism accounts are often 'hopeful' in that they seem to promise that if we, as teachers are prepared to recognise our pupils' natural learning capacities, are aware of the ways in which knowledge is mediated via representations, and of the many ways in which past knowledge affects present learning, then classroom learning will not be a problem, for teacher and taught' (Fox, 2001, 33)

Through comparing the pilot projects' engagement with the thinking modes it is clear that the first pilot project was more successful in meeting original aims based on the thinking modes. The relevance of Fox's (2001) concerns over teaching approach to the pilot projects is discussed in section 7.4c, in which the challenges and opportunities relating to the delivery of the pilot projects are discussed with reference to current policy and critique.

The concepts of design and utopianism are proposed to qualify a conceptual strategy for EfS in section 4.5, founded on the approach to knowledge endorsed in critical education. Thinkers who have argued for the appropriateness of re-articulating design were drawn upon, highlighting that the most urgent problem goes beyond the material object to the design of better communities (Dilnot, 1982; Findeli, 2001; Orr, 2002; Inns, 2007; Wahl and Baxter, 2008). Design thinking has already attracted interest from the business community (Brown, 2008) and this thesis highlights the potential of design thinking to EfS. Design thinking, or the design process, is conceived as relevant to EfS in terms of the focus on challenging possibilities; relationality and holism; values; and empowerment. Design thinking is conceptualised as encouraging thought about alternatives and challenging possibility; focusing on relationality and

holism; requiring consideration of values and priorities; and orientated towards empowerment to enact change towards sustainable development.

Utopianism is embraced as a catalyst to involve pupils in the design process. As discussed in chapter four the concept needs to be reclaimed from the tarnish of futile idealistic dreaming (Halpin, 2003; Inglis, 2004; Hedrén 2009; Moylan and Baccolini, 2011). Glaser's (2014) relevant paper on the expression of political ideals in the 21st century addresses the significance of negative connotations, similar to those tarnishing utopianism, associated with 'ideology'. Glaser (2014, 27) discusses the need for an 'alternative narrative or frame of ideas' as part of 'a wider strategy for transforming politics' (see also Coote, 2014). The relevance of utopianism, and the design of utopias, for conceptualising EfS in terms of the focus on a vision and critique; the focus on human goodness and positive change; a society in full operation, or holism; and sustainable development as a process, was articulated in section 4.5. This resonates with the need, emphasised in the case for change, for alternative visions of a 'better' and 'inspiring' society, including the key aspiration of sustainable development as endorsed in this research as not to lose faith.

Thus design and utopianism are conceptualised as very relevant to EfS through reference to the four thinking modes, as discussed in section 4.5. Design, utopianism and the four fundamental thinking modes are proposed to qualify the theoretical underpinnings informing the concept of EfS endorsed in this thesis, as highlighted in Table 7 (1).

Table 7 (1): The relevance of design and utopianism and the original thinking modes to qualify EfS

Aspect of Design thinking and Utopianism	Thinking mode qualified	Classroom aims
Systems thinking	A focus on thinking about the consequences of our actions and the interdependence between the social, environmental and economic spheres; the individual, local and global levels and the relationship between the good news and the bad news as defined by the pupil.	Foster an understanding of the interconnectedness of the world, synergies and feedbacks, and available resources. Make education relevant by bridging the gaps between -theory and practice -subjects
Future thinking	A focus on thinking about our collective future and what a wiser future would look like instead of just making the situation less bad.	Form opinions of right livelihood considering the need for sustainable development. Engage students with the development of a better society and ownership of the future.
An emphasis on values and priorities	A focus on discussion and consideration of the values that guide our behaviour and which values should be reinforced for the development of a 'wiser' society as defined by the pupil.	Encourage a consideration of the consequences of decisions. Create an opportunity to reflect on values and critically evaluate which values should underpin visions of the future.
Action competency	A focus on engagement and empowerment to participate in the development of a 'wiser' society as defined by the pupil.	Create a dynamic, visionary, creative, inspiring, proactive and empowering (classroom) environment. Bring positive benefits to the community. Ensure that the channels for public participation and the rights of the child are fulfilled.

Design and utopianism are thus conceptualised in this thesis as underpinning a concept of EfS with potential to focus on discussing and articulating a society in full operation; challenging current society and focusing on alternatives. EfS is therefore conceptualised as engaging pupils in the re-design of our society and their local communities and proposing alternative visions for the future, including a focus on pupils reflecting on their role in society and interests, articulating their understanding of sustainable development and taking initiative. The understanding of EfS endorsed emphasises the importance of engaging pupils in both structural and individual change (Shove, 2010; Poeck and Vandenabeele, 2012); optimism about the future (Hicks, 1998; McKinley, 2008; Marshall, 2014); values (Crompton and Kasser, 2009); and research and debate and developing 'the tools' and know how to build on pupils' ideas.

Key discussions that EfS has provoked, as presented in chapter four, are also important to address in qualifying the understanding of EfS, as endorsed in this thesis. The themes raised in the academic debate, section 4.4, are returned to under the themes constituting the analysis of pedagogy: issues relating to terminology are addressed under concerns over clarity of policy to facilitate EfS; concerns over indoctrination and values are addressed under teachers' confidence and ability to

facilitate pupil led learning; and the concern over how to integrate EfS in the curriculum is addressed under the challenge of interdisciplinary learning. As highlighted in section 4.4, evaluation of EfS projects and individual assessment for EfS proves to be a controversial issue. This theme is returned to through demonstrating the way in which the thinking modes are presented as an appropriate framework to evaluate EfS, in the following section and the analysis of pedagogy. I propose ideas for a third pilot project in section 7.5a and specific suggestions for evaluation, and assessment, built on the experience of the two pilot projects. The importance of striking a realistic engagement with current trends without causing despair was acknowledged in section 4.4. In order to do this, my aspirations for EfS delivery in practice were informed by clear theoretical underpinnings and aims for EfS and a commitment to monitor the impact, focused on systems thinking, future thinking, an emphasis on values and priorities and action competency, as reflected on in the following section. Concerns with hope and despair are proposed as fundamental areas to include when researching teachers' and pupils' attitudes to EfS, returned to in the suggestions for how a third pilot project could develop in section 7.5a. The following section highlights the extent to which the delivery of the two pilot projects differed, despite similar theoretical underpinnings.

7.4b Critical reflection on the theoretical framework

This section reflects on the way in which the pilot projects brought theory to life, and therefore constitutes important grounding for discussing the challenges and opportunities for EfS implementation, in the following section. This section attempts to overcome the tendency identified by Gordon (2009, 42) for educational research to be 'abstracted from the lived world of students in classrooms and schools'. In writing the section, the benefits of running the pilot project in two different schools concerning both the socio-economic background of pupils, including the pupils' propensity to engage, and the teaching style was appreciated. The experience also shaped my expectations, for example, I appreciated the level of reflection occurring during the first pilot project only due to comparison.

The extent to which the concepts of design and utopianism were explicit in the delivery of the pilot projects varied, as demonstrated below. As evidenced in chapter six, the first pilot project was clearly guided by the idea of engaging the pupils in the design of a different society and encouraging pupils to present their aspirations for a 'wiser' society. The final event (see programme for the community event)

demonstrates the extent that the delivery of the pilot project reflected this original ambition, in the form of presentations that met or exceeded expectations. As raised in the pilot project write up, Maria and I discussed ideas to further the relevance of utopianism to the classwork. In discussions with Maria after the completion of the pilot project, we both agreed that if time had permitted we could have focused more on the vision, as opposed to critique, and a more holistic approach to society. However, it is important to appreciate all the final presentations contained, and were guided by, a 'future message' and the pupils did bring the 'ingredients of society' together for the final presentation. The ambition for the second pilot project was to follow the model developed in the first pilot project, with the presentation in the form of a documentary rather than a final presentation. The concepts of design and utopianism were discussed with Simon at the beginning of the second pilot project; however, the relevance to classwork was minimal. I left the second pilot project still interested in the power of the concepts to guide strategies for EfS due to the importance of facilitating pupils' understanding and the success of the first pilot project. The concepts did remain influential in the writing of the resources, presented in appendix 6.3 (8).

Explicitly discussing the power of design and utopianism and the four key thinking modes with the teachers and pupils as concepts to guide the delivery of EfS was an area that could have benefited from more research if time had permitted. I originally was uncomfortable discussing such theoretical concepts outside of academia until I had grown in confidence through the completion of the first pilot project. As woven into chapter six my initial intentions for evaluation were to engage the teachers and pupils in reflecting on the analytical framework and the extent to which the thinking modes were facilitated during the pilot project. After the first pilot project, I spent a substantial amount of time considering the content of the pupils' presentations and how I could discuss the presentations with reference to the thinking modes. However, the presentations were a manifestation of pupil voice and not an 'assessment' against set criteria in this pilot project. I would have preferred to have engaged the pupils in evaluating the presentations, and overall pilot project, with reference to the framework but we did not have sufficient time. Additionally I was confident that this could be the focus of the second pilot project, as noted in table 6.2(3). However, the aspiration to engage the pupils in reflecting on the thinking modes was based on expectations of a comprehensive delivery, including presentations. Thus the final evaluation of the pilot projects did not neatly fall under the thinking

modes. I've used the thinking modes to reflect on the nature of EfS delivered, from my perspective. This is presented as a backdrop to analyse the pedagogy discussed in the following section. As already acknowledged, ideas that would have helped to use the analytical framework for evaluation are included in suggestions for a potential third pilot project, section 7.5a.

This section returns to each thinking mode (system thinking, future thinking, values and priorities and action competency) and considers the relevance of the thinking modes in the classroom. Consideration of the classroom aims, as articulated in Table 7 (1), was helpful in writing this section. Through referring to practice the potential meaning of the thinking modes are qualified, with a brief commentary on the relevance of the thinking mode to EfS and underpinning literature that highlights the significance of the discussion.

Understanding and support

In the spirit of critical education, engaging pupils in the rationale was considered key to the success of the pilot projects, which relied on pupils' understanding and support. As highlighted in chapter five, there is a gap in literature on pupils' and teachers' understanding and support for EfS, which relates to the wider problem of evaluating EfS and the need for more empirical research to inform educational policy and practice (ESD co-ordinating group, 2010; Priestley and Minty, 2012; Sosu and Ellis, 2014). As one pupil, May, explained during the first pilot project: "If you don't understand something you don't like it...it's not going to help us". Thus it was considered appropriate to commence with a brief overview on the insights into pupil understanding and support, before a more detailed examination of the nature of the pilot projects through reference to the thinking modes. In both pilot projects, feedback sought pupils' views on both their understanding and support. However, as detailed below, it is important to consider pupils' feedback within the context of what happened during the pilot project.

At the very start of the first pilot project, I was confident that the majority of pupils were eager to understand the pilot project; were engaged with the need for societal change; and recognised the importance of engaging with structural and individual issues in addressing sustainable development. This is evidenced in the feedback sheets completed at the start on the pupils' attitudes to sustainable development and to the pilot project. The pupils' propensity for engagement was also

noted by the University facilitators who commented on the pupils' enthusiasm and interest. Indeed, the presentation at the end to a wide audience reflected the amount of work pupils had dedicated to the pilot project, demonstrating both support and understanding. Pupils' support expressed during the period of evaluation supports my, and the teacher's, impression that the class found the pilot project both interesting and challenging. It was clear that the final outcome was essential for motivation and understanding.

The pupils' support and understanding expressed during the first pilot project contrasts with the experience during the second pilot project. Initially I thought the second pilot project would be less challenging because I had a clear idea of what I hoped we would deliver, build on the first pilot project. We had an outline of sessions and I had a clearer research design. During the pilot project decisions were made to clarify structure such as writing the synopsis for the documentaries and allocating each group a teacher mentor. As explained in the introduction to the pupils' reflective overviews, I am uncomfortable about the term 'understanding' due to an appreciation that initial plans were substantially different to what took place, influenced by issues relating to the theoretical underpinnings, pedagogy and logistical problems. This is reflected in the pupils' feedback in which the pupils suggested that more structure would have improved the pilot project. . As highlighted in the second pilot project write up, pupil feedback indicated a notable lack of interest about engaging with EfS; a focus on specific issues; very vague responses, and low expectations to complete coursework; and no mention of the documentaries in any detail. As the pilot project developed and feedback was sought the pupils made little reference to making a documentary, and the skills that they claimed to have developed were not justified. The pupils' feedback does, on the other hand, reflect a general level of support for engaging pupils in the development of a better society; community involvement; and a vague understanding of the aims of the pilot project. In general the pupils' feedback during the second pilot project on support and understanding was higher than I expected, in terms of self-reported understanding and support. In stark contrast to the high achieving English class in the first pilot project, the teachers made reference to pupils who "ought not to be at school"; the pupils' lack of ambition; and the influence of parents on their negative approach to education and low aspirations. Simon also reflected on their poor team working abilities. Simon did, however, present a far more nuanced view of the class, explaining on another occasion the way in which they cared

about their community. Many of the explanations for the challenges encountered during the second pilot project should have been addressed at the very beginning with knowledge of the class abilities and their levels of understanding; and the potential to engage the pupils in a way that built on their interests, which may have been more parochial than issues arising in the first pilot project.

Through the above very brief overview and comparison of the pilot projects it is clear that the pupils from the more privileged socio-economic background participating in the first pilot project had higher levels of understanding and that the second pilot project failed to tailor to the needs of the pupils. The differences in the two schools considering their socio-economic background resonates with Sosu and Ellis' (2014) research on the attainment gap and poverty in Scottish education. Sosu and Ellis' (2014) research highlights that poverty and attainment in Scottish schools needs to become more visible, in terms of advice about developing the curriculum and the need to identify strategies that would support pupils from poorer backgrounds. The way in which such strategies related to the second pilot project are discussed in the analysis of pedagogy rather than in this section, including the themes of mentoring, group work, metacognitive skills, feedback and aspirations.

Systems thinking

My ambition to reunite theory and practice in terms of systems thinking resulted in several re-writes of this section. This section comprises of a consideration of the meaning of, and ambition for, systems thinking in the context of the pilot projects; an overview of systems thinking in pilot project one and two, including the challenges and opportunities of systems thinking; and reflection on the stronger focus on environmental concerns during the first pilot project

As addressed in section 4.3 key thinkers conceptualising systems thinking refer to the way in which linear thought has resulted in a failure to see connections and the importance of perceiving connections to sustainable development (Capra, 1996; Bateson, 2000; Capra, 2003; Sterling, 2003; WWF, 2005). Thus, systems thinking focuses on our ability to understand the unintended consequences of our actions that may conflict with values and intentions. The diverse, rather than conflicting, theoretical underpinnings and interpretation of systems thinking is reflected by Sterling (2003). Sterling (2003) discusses whole system thinking as cultural worldview, as educational paradigm, as educational design, as educational practice, and as a competence; and

identifies three critical aspects of systems thinking including personal knowledge, propositional knowledge and practical knowledge. In order for structure, my working definition of systems thinking is narrower. Systems thinking in the context of the pilot projects refers to whether or not the pupils are engaging with the interconnectedness of the social, environmental and economic spheres and the individual, local, national and global. As described in chapter six, topics were proposed in order to facilitate the pupils to work on the 'ingredients of society' and propose ideas, from their broad topic headings, constituting their understanding of sustainable development. Class presentations and debates were planned and hypothesised to enable pupils, or the teachers, to consider proposals in terms of their consequences for other topics and from the social, environmental and economic and individual to global perspective. Thus, the idea that pupils would be working on a holistic perspective of society was key to the conceptual underpinnings of the pilot projects: aiming to create 'space for learners to express a plurality of views and, at the same time, to connect these views to larger political articulations' (Poeck and Vandenabeele, 2012, 546). As Poeck and Vandenabeele (2012, 543) highlight this approach to developing systems thinking is not prominent in the EfS discourse in which the dominant discourse considers sustainable development issues as learning problems that can be 'tackled by applying the proper learning strategies' and on changing individual behaviour rather than focusing on spaces for learners to engage in such discussions. The thesis supports Sterling's (2003) view that there is much work on systems thinking that is focused on first order learning rather than deeper and transformative learning. A resource that has engaged with the former ambition is *Linking Thinking* (WWF, 2005), which provides examples of how to engage pupils in systems thinking with specific questions. This could have been helpful for evaluation purposes during the first pilot project in terms of engaging in discussion on the meaning of systems thinking. However, initial aspirations for systems thinking were premised on a different basis to *Linking Thinking* (WWF, 2005) due to the reliance on the quality of work required of the pupils during the pilot projects, in terms of them developing their ideas for sustainable development and a sense of ownership over their learning. As discussed below the pilot projects were based on 'the importance of creating spaces and practices in which a public of equals can emerge' (Poeck and Vandenabeele, 2012, 549). Indeed, there is debate over systems thinking in the curriculum, in terms of the best way to facilitate interdisciplinarity through the curriculum and whether or not EfS can be delivered

across the curriculum, highlighted in section 4.4 (see Knapp, 2000; McKeown, 2002; Kerr *et al*, 2007). As detailed below, the potential for interdisciplinary work to support systems thinking was raised by Maria. A commitment to interdisciplinary learning and a whole school approach to sustainable development are endorsed in policy. The insights into interdisciplinary emerging from the pilot project are discussed in the analysis of pedagogy. Bridging the gap between theory and practice, with the potential for a more complex understanding of the world is returned to under action competency.

The following brief overviews of the pilot projects highlight that both teachers spoke about ambitions to engage with a holistic vision of society. Maria spoke about developing systems thinking based on the pupils' abilities in the form of more debates, whereas Simons approach to systems thinking hampered rather than supported progress. The following overviews highlight opportunities and concerns that are relevant to systems thinking resulting in very different delivery of the pilot projects. Such concerns are returned to under teachers' confidence and ability to facilitate pupil led learning.

During the first pilot project, the pupils' presentations gave Maria and me an opportunity to encourage the pupils to consider the economic, social and environmental aspects of their proposals. In terms of reflecting on the connection between good news and bad news as defined by the pupils, several of the pupils explained that the introduction to the pilot project had been useful and unusual in presenting societal problems, as they were accustomed to being told the extent to which their society was 'developed'. The pupils' presentations reflected an understanding of the need to challenge 'progress' and think about the consequences of actions. In retrospect this indicated that most pupils in the class had a propensity and interest to start challenging connections, as highlighted in the class profile for pilot project one. Although the evaluation during pilot project one was not focused on capturing the pupils' engagement with the different levels and spheres, both Maria and I noted discussions in class addressing individual, local, national and global concerns, and environmental, social and economic as pupils identified their focus. As Forrester (1990, 368) explained in discussing systems thinking 'Students are stuffed with facts but [they are left] without a frame of reference for making those facts relevant to the complexity of life'. Signs that pupils perceived the pilot project as an opportunity to develop systems thinking were articulated by Michael's explanation of why the pilot project was original: "It helped me to understand the learnings and contextualise it".

The plan proposed by Maria at the end of the first pilot project to have a class debate was very much focused on facilitating engagement with systems thinking. Time for debate was limited in terms of encouraging pupils to ask questions and evaluate suggestions made by other groups from their particular topic, or area of interest. As Maria explained, there was a lot of scope to draw everything together and discuss how the topics related to each other: encouraging pupils to evaluate ideas from the focus of their topic and consider compromises that might be needed. The pupils supported this proposal through suggesting more time for discussion during the period of evaluation, highlighting support for engaging with systems thinking. Outwith the classroom, Maria and I also spoke about the potential for other subjects to enrich the delivery of the pilot project. This is returned to as a theme under analysis of pedagogy. My involvement in the classroom fuelled my confidence that a second pilot project could follow a similar structure and thus permit time to focus more on engaging the pupils with the epistemological understanding of systems thinking and factor time in for more debates. Such a focus was considered an exciting opportunity to improve the evaluation of the pilot project suitable for my PhD.

An ambition to engage with systems thinking was clear in the way that Simon interpreted the pilot project. Simon wanted the pupils to engage in thought about the consequences of actions rather than follow a set of traditionally pro-environmentally friendly behaviour without engaging in critical thought, as returned to in the following paragraph. This is demonstrated in the following quote: “you are not simply emptying a recycling box because that is what you do on a Thursday. You are getting involved in the whole process of consumption and of the use of energy and materials”. However, as discussed in chapter six there were no group presentations and therefore the absence of a comprehensive delivery challenged plans for facilitating systems thinking. As addressed in chapter six, Simon referred to the local (the existing groups in school related to EfS) and the global groups (the St Andrews groups) which he wanted to draw together to produce a final outcome. Although this had potential for pupils to reflect on the link between the individual, local, national and global more structure was required to ensure learning outcomes. In reflections towards the end of the pilot project, Simon said that he should have just kept to the St Andrews groups. This was one example in which ambitions hampered progress and conflicted with initial plans, resulting in confusion rather than supporting systems thinking. This ambitious approach also related to the clarity in the groups’ remits, in which Simon expressed

his hopes that the pupils would engage in more holistic and alternative interpretations of their topics, which was ultimately far more challenging. Such confusion over the groups' remit, indicated a difficulty in the second pilot project to facilitate pupil led learning and systems thinking as returned to in analysis of pedagogy.

I now return to the focus on the environment, and the reference to our Earth identity in chapter two, in the context of the pilot projects. Rather than considering an environmental focus as separate it was integral to the theoretical underpinning of the pilot projects. The engagement with environmental limits was much stronger in the first pilot project. The commitment to start with the pupils' interests; engage with their ideas for community improvement and work with what they considered relevant, instead of an initial focus on the environment, resonates with the approach to critical education as introduced in section 4.2. The risk of conceptualising EfS as a set of pro-environmentally friendly is raised in chapter two, in terms of the potentially detrimental effect, for example, discouraging pupils to engage in critical thought (Crompton and Thøgersen, 2009; Cincera and Krajhanzi, 2013). The prominence of EfS as selected pro-environmental competencies is addressed in chapter five and returned to in the analysis of pedagogy. Despite my commitment to addressing environmental concerns, the priority ambition was to create an environment in which others could be inspired to act and challenge their areas of interest. The importance of the environment in the first pilot project is reflected in the TES reporter's choice of title referring to the pupils as 'eco-pioneers'. The commitment for pupils to articulate their own perspective on sustainable development was reflected in the pupils' feedback in the first pilot project, as one pupil, Maria, explained "normally in school it's very structured...sometimes you know what to do, but the structure does not let you. With this project, we got to look into what interested us", and various pupils referred to the focus on "their voice". Indeed the understanding of EfS as endorsed in this thesis is based on an aspiration to facilitate 'learners to voice their own stories, opinions and values...and contribut[e] to the learning process from their own perspective' (Poeck and Vandenabeele, 2012, 548). As addressed in chapter two, sustainable development is contextual and engaging with the stories that people live by is fundamental to engaging and participating in sustainable development (Crompton, 2008; Poeck and Vandenabeele, 2012, 548). The importance of working with a wide range of themes relevant to pupils, not perhaps commonly associated with EfS, was demonstrated during the second pilot project. Many of the pupils were far more engaged with the ex-drug addict, for

example, than the talk about climate change. The predominance of set environmentally friendly behaviours and climate change in conceptualising EfS was addressed in chapter five (ESD co-ordinating group, 2010), and is returned to in considering the meaning of action competency in the pilot projects. Thus the engagement with issues that are potentially not commonly associated with EfS can be considered as essential in addressing, and engaging people with, fundamental concerns such as how to create happier, healthier communities, and how to support people with problems (see Mackey, 2012). The lack of an environmental focus in the second pilot project can be considered a result of not meeting initial aspirations for the pilot project in which pupils who came to the class with a pre-existing interest in environmental concerns could engage their classmates.

The above discussion has indicated the potential of the first pilot project to facilitate systems thinking. The discussion provides a grounding to discuss issues related to pedagogy, including too ambitious aspirations during the second pilot project for facilitating systems thinking. The approach to environmental concerns is conveyed as integral to the conceptualisation of EfS endorsed in this thesis, rather than a separate theme. The aspirations to facilitate pupils developing their interests and ideas of sustainable development rather than engaging with set environmentally friendly behaviours pervades this section. As is indicated from the pilot projects, many issues commonly associated with EfS may not be appropriate to engage and empower disengaged pupils. The discussion on systems thinking is returned to from a different perspective focused on issue of cross curriculum delivery in the analysis of pedagogy.

Future thinking

This section reflects on the meaning and rationale of future thinking in the context of the pilot projects; the evidence and insights into future thinking in pilot project one; the experience of future thinking in pilot project two; and the stark contrast in terms of future plans and ownership between the two pilot projects. Most pupils in both pilot projects reported that they had been encouraged to think about society in the future. However, as evidenced below, such crude feedback requires further discussion.

The rationale for future thinking has been proposed in section 4.4. As Slaughter (2002, 177) argues 'the forward view fundamentally challenges the way we operate in the here and now'. Gidley and Inayatullah (2002) have been influential in reflecting on the approach to future thinking in the context of the pilot projects. Gidley and

Inayatullah (2002) draw together research that articulates the importance of future thinking, including empirical research on the way in which future thinking can change attitudes and empower pupils. As described below, in pilot project one pupils had the task of presenting their future message on to their ideas about sustainable development to their community. In pilot project two, initial plans were to follow a similar structure to the first pilot project but engage the pupils more in first hand research and present their future message in the form of a documentary that would also be shown to their community.

This section briefly highlights that future thinking pervaded the first pilot project. This is justified through highlighting the way in which the first pilot project was guided by the task of pupils presenting a future message, characterised by high levels of understanding; and resulting in a sense of ownership of the future. The preparation for ‘an evening of visions for our future’ during the first pilot project clearly signalled that the pilot project was about engaging the pupils in research and their ideas for the future. The visual presentations reflected an understanding of the first pilot project as generating better ideas about how society should progress from the pupils’ perspectives. Maria, through a discussion on utopianism, did acknowledge that we could have improved the presence of future thinking which was orientated towards the opportunity in the crisis rather than the impending disaster. Maria commented that “we did lose a sense of the re-design” although all pupils drew conclusions relevant to “building something new”. In terms of ownership over the future, pupils in the first pilot project referred to “their voice” and “getting their views heard”, and to altering “however small, the world and have our views heard on how we feel the world should develop”. The positive responses from pupils resonates with Hart’s (2002) research on future thinking, in which he refers to his case study as confirming the success of future tools; pupils developing a voice; pupils becoming engaged and pro-active; addressing dilemmas and opportunities, and engaging with ‘the big picture’. Hart (2002) refers to Jensen’s (1995) model as appropriate to understand engagement with future thinking in terms of different stages: knowledge; commitment; visions of the future; experience of taking action to move from fatalistic attitudes to the future to ownership of preferable futures, and the way in which pupils varied in their approaches. In retrospect, this model would have been useful to discuss with the pupils. Suggestions to improve the pilot projects are included in section 7.5, in terms of making all thinking modes more explicit. Rather than the attempt to engage the University facilitators in utopianism and

provide feedback on how the pupils approached the future, at the launch of pilot project one, a conversation about the pupils' education and specifically their understanding of EfS would have been more enlightening.

As detailed in chapter six, evidence of engaging the pupils in future thinking during the second pilot project was minimal. Insights from Hart's (2002) case study, which largely confirmed the success of his project highlighted that the approach failed some pupils. Several pupils were unable to engage; did not develop future foresight; resulted in them being more pessimistic about the future and expressing that the exercises were 'weird and pointless' (Hart, 2002, 221). Having experienced and observed the first pilot project, I considered many pupils' attitudes in the second pilot project as resonating with the descriptions of some pupils' lack of engagement in Hart's (2002) study. However, given the failure to deliver a comprehensive project I consider the second pilot project as presenting insights into the challenges of pedagogy rather than presenting insights into future thinking. Stewart (2002, 193) highlights the importance of the 'local environment and the lived experiences of the participants' as crucial to engaging pupils in the 'visioning process', key to the initial ambitions of the second pilot project. Stewart (2002) emphasises the importance of success stories and the importance of pupils experiencing hope, an area that may have helped pupils engage if basic criteria had been followed as identified in the following section. Gidley and Inayatullah (2002) highlight the range of tools that could have helped engage the pupils in future thinking and propose frameworks to engage with future thinking. However, in order to have met our ambitions, generic criteria related to the class set up and teaching capacity were considered the main challenges to engaging the pupils in future thinking.

A striking difference between the pilot projects was evidence of future plans expressed by the pupils. Future plans and ownership relate to all the thinking modes but are included in this sub-section for structure, and expanded on under the challenges of facilitating pupil led learning. Throughout the first pilot project Maria and I questioned the pupils as they worked on their research and when they presented their research to the class, including their plans to progress. Pupils' feedback during the second pilot project indicating a lack of future plans compared to the first, for example the overview of the groups' progress contrasted with the teacher's and my observation of pupil ownership during the first pilot project. Simon clearly wanted the pupils to take initiative. Seventy five percent of pupils reported that the pilot project

required taking initiative, a rather low percentage considering our commitment to the underlying pedagogy. During the second pilot project the understanding of EfS reflected a focus on making the situation less bad, rather than engaging with critical thought and contributing ideas for a wiser future. This is returned to in the discussion on the different interpretations of EfS.

This section has highlighted the very different abilities of the teachers to facilitate the pupils to develop their ideas about the future, and thus feel empowered and inspired. The contributing factors relating to the pedagogy are discussed in the following section. Analysis illustrates ideas referred to in Gidley and Inayatullah (2002) for engaging with future thinking that could have been used in the second pilot project, for example, asking pupils specific questions about their hopes and fears for the future and for their neighbourhood. In writing this section I realise that without the generic criteria for classroom delivery identified in Box 7(1) I considered our engagement with future thinking too challenging in pilot project two. Tasks should therefore have been completed in a period given the lack of continuity possible in an unstructured project until generic criteria were met. The potential for pupils to engage with future thinking, when such generic criteria are met, is reflected in the write up of the first pilot project in chapter six. Indeed, the pupils' feedback on the first pilot project, especially their emotional essays, capture the sense of pride and confidence, and support for engaging with future thinking, most evident during their final presentations as pupils presented their future message to their community.

An emphasis on values and priorities

This section recaps on the normative approach and aspirations for values and priorities in the context of the pilot projects; reflects on the evidence of pupils engaging with values and priorities, constituting a very brief overview of the first and second pilot projects; and returns to Scott's (2002) responsibilities of the educator to highlight the differences in the pilot projects, despite similar theoretical underpinnings.

The importance of engaging with values, and strengthening intrinsic values, for sustainable development was firmly established in chapter two (Maio *et al*, 2009; Crompton and Kasser, 2009; Crompton, 2010). As highlighted in section 4.4, EfS has resulted in concern over how to engage with values and priorities, including controversial issues, without indoctrination. The importance of engaging with controversial issues is highlighted by Bray (2010, 1): 'If ESD does not allow for such

difficult problems to be addressed then it is by default complicit in maintaining a *status quo* that is fundamentally unsustainable'. As detailed in chapter six, a critical friend reflecting on the first pilot project raised the concern that pupils may be given a platform to voice "right wing views" and "wrong information" where class members have a great influence. In response, the pilot project was founded on an ambition not to exclude dissent and conflicts relating to sustainable development but to create spaces in which 'the learners' knowledge, values and perceptions are reflected upon and challenged' (Poeck and Vandenabeele, 2012, 547). The values of such an approach in terms of youth engagement and identity related to current terrorism legislation is a relevant area outwith the scope of this thesis. An emphasis on values and priorities, critically evaluating which values should underpin visions of a wiser future as defined by the pupils, was key to the ambition of the pilot projects. The aspirations for engaging pupils with values and priorities were firmly rooted in critical pedagogy, with a structure that would support pupils to research and frame their areas of interest and become confident to debate and discuss ideas (Newfield and McElyeas, 1984). The plan for both pilot projects was to have regular class presentations on progress. This would facilitate pupils' abilities to structure and research; and provide opportunities for the class, teachers and myself to pose questions and thus challenge values, related to both individual and structural concerns, and social, economic and environmental implications of their presentations.

The first pilot project developed a structure to engage with values and priorities through facilitating pupil led learning. The thesis emphasises the importance of structuring the pupils' reflections on their own values and priorities through helping the pupils articulate their progress; their future plans for classwork; and the issues they feel strongly about. As is evident in chapter six, the emotional and discursive essays resulting from the first pilot project conveyed the impact of the pilot project on the pupils' personal development, and the range of themes the pilot project had addressed. Many of the pupils raised topics that were controversial, from prison sentences to organic food. Maria reflected that the pilot project had helped "demystify sustainable development" and enable pupils to "pick apart the big topics" which led to "heightened awareness", this view was supported by my observations of and conversations with pupils. Maria explained the process of engaging with values and priorities during the pilot project: "it's their way of maturing, making choices and reflecting on the choices that are available to them". The pupils' comments for

improvement included support for more debate, indicating their enthusiasm for engaging with their own, and their classmates', values. As already acknowledged, during the first pilot project, and especially evident in the final presentations, pupils were presenting their research and ideas in a personal, engaged and passionate manner. The TES report supported such a presentation of the pilot project, commenting that it had 'stoked passions in the pupils'. In the context of evaluating values and priorities in the first pilot project, the presence of working towards a final goal contributed towards motivating the pupils to produce a high quality of work. Maria based her evaluation in terms of the impact on the Higher English course, highlighting the potential for the pilot project to support CfE.

As demonstrated in chapter six Simon was very keen for the pilot project to be about encouraging pupils to think for themselves, challenge, question, research and share their views. Despite positive feedback during the second pilot project relevant to engaging with values and priorities, concern over indoctrination, albeit unintentionally, was far greater due to a lack of structure to facilitate critical thinking and debate. A high percentage of pupils reported in the mid-term feedback that the pilot project had challenged their thinking and in the final feedback made them think about ways for local and global improvement. However, the overview of group progress highlighted the extent to which the pupils were engaging with causes they felt strongly about. As Simon highlighted, many of the issues that fired us up, ranging from climate change to the food system; working conditions around the world to ethical fashion; the pupils knew nothing about. There was a tendency to regard pupils in the second pilot project as not caring due to their lack of knowledge, where instead we should have focused on their knowledge. The propensity for pupils to engage and discuss controversial issues was demonstrated when I let a group of pupils read through my correspondence with an inmate on death row. Immediately, pupils were eager to discuss, change and challenge their views. The pupils were equally emotionally engaged with Fred, the ex-drug addict, and Mounir, the Syrian activist. I interpreted this as highlighting the failure to provide an appropriate learning experience as informal talks with the pupils highlighted their potential to be engaged, debate and challenge their pre-conceived ideas. As demonstrated with the example of McDonalds, without structure and reflection, the risk of indoctrinating in an attempt to interest pupils in an engaging issue was a concern during the second pilot project. The logistical issues, as discussed in chapter six, hampered intentions to facilitate discussion on

controversial issues from different perspectives. Many opportunities to involve the pupils in controversial issues were not discussed, for example: the role of protests (Lifelines lady), who should be allowed to come into school (Lifelines lady); free speech (Jewish representative and the campus police) and the Palestinian/ Israeli conflict. Contrary to the first pilot project, there was very little monitoring of pupils' work in the form of assessment.

Scott's (2002) understanding of four key responsibilities of educators informed the normative approach to values and priorities as quoted in 4.4. The responsibilities pertain to helping pupils perceive sustainable development as in their interest; using appropriate pedagogy to engage pupils; helping pupils perceive plural perspectives; and encouraging pupils to continue to think about such issues beyond their formal education. The following reflection on how the pilot projects differed in meeting such responsibilities highlights the differences in the pilot projects, despite similar theoretical underpinnings.

During the first pilot project the majority of pupils' perceived sustainable development in their interests. This was evident in the way that: pupils referred to "our future"; pupils indicated they had a responsibility to participate in the change they considered important; and the pupils', teacher's and my own reference to pupil ownership of the project. During the second pilot project, the structure did not facilitate discussions that would have elicited an understanding of sustainable development as in the pupils' interests. Additionally, pupils' low expectations on the reasons for participating in, and expectations of, the community involvement module and thus pilot project, indicated that pupils did not perceive relevance to their interests. However, my informal discussions with pupils indicated their potential to engage and care if facilitated to do so, as highlighted in chapter six, supporting Mackney's (2012) research on the importance of respecting pupils pre-existing knowledge.

Second, the pedagogy was considered key to the success of the first pilot project to encourage active engagement. As Maria explained, the success hinged on the appropriate pedagogy: "they owned it and they haven't forgotten it. Whereas I could take them through an essay, or a poem that they've read and it's not the same process because they didn't lead it". During the period of evaluation, pupils on the first pilot project commented on the pedagogy in terms of providing them with opportunities to develop their interests. In contrast, the pupils on the second pilot project, especially in my informal discussions with them, spoke about the need to provide structure.

Third, pupils were beginning to gain plural perspectives during the first pilot project, although this could have been developed through more debate. Throughout the first pilot project there was a sense of engagement with different perspectives due to the quality of work produced by the pupils. Many of the audience members who attended the final presentations attached thought provoking comments to the topic trees for pupils that could have further challenged their perspectives if time had permitted discussions. During the second pilot project, the potential for pupils to gain plural perspectives from engaging with the visitors was highlighted, although the structure to examine the learning was not developed. Indeed, the potential for engaging with plural perspectives in the second pilot project was highlighted above through reference to the many controversial issues that could have been discussed, returned to in the following section. Having discussed issues with the pupils in the second pilot project I predicted that pupils would have been very willing to engage in a class debate about the aforementioned issues, however few pupils were facilitated to do so.

Last, there was an indication that the first pilot project had potential to encourage the pupils to continue to think about issues beyond their formal education. The lack of research on the longer-term impact of EfS was highlighted in chapter five (Davis, 2009; Wells and Lekies, 2012). This was not an area informing the evaluation during the pilot projects. However, as noted above, Maria explained that the ownership over the project increased the likelihood of pupils continuing to think about issues. Additionally, pupils' parents commented on the positive learning experience indicating that pupils had discussed it at home. Research indicates the importance of parental/guardian support in influencing pupils' attitudes towards, and engagement with, their education (DCSF, 2008; Kintrea, 2011). However, the potential for pupils to continue to develop EfS through conversations at home is not examined in this thesis. In the emotional essays several pupils referred to their transformative learning experience, in terms of confidence. In terms of the lasting influence of pilot project two on pupils, I predict that the discussions with the visitors did provoke pupils to think about issues outside of the classroom, however evaluation was required.

As highlighted earlier, understanding and support were prerequisites for engaging with values and priorities, thus predictably an engagement with values and priorities was more prevalent in the first pilot project. Both pilot projects were based on the aspiration to focus on valuing and discussing pupils' interests, concerns, and

ideas for the future, rather than teaching particular attitudes, following set behaviours, or teaching towards consensus, common in EfS discourse as addressed in chapter five. Through reference to Scott's (2002) responsibilities of teachers, the differences between the pilot projects have been highlighted and are returned to in the following section in which the pedagogy is discussed.

Action competency

This section discusses action competency in the context of the pilot projects through reference to: a brief reflection on the aspirations for action competency in the context of the pilot projects; acknowledgement of the stark difference in generic skills developed during the pilot projects; and reflections on the insights emerging from the ambition to create spaces and engage with practice outside the school.

All the proceeding thinking modes informed the approach to action competency endorsed in this thesis based on the understanding that by cultivating imagination, hope and experience of participation, young people can develop the motivation necessary to actively participate in creating sustainable and stimulating communities (Hart, 2002; see also Boulding and Boulding, 1995; Hutchinson, 1997; Hicks, 2002). Action competency is fraught with tensions and open to a variety of interpretations, a theme identified by the ESD co-ordinating group's (2010) review in terms of tensions between campaigning and learning. As emphasised in Gayford (2009, 5), supported by Crompton and Thøgersen (2009), when considering 'action competency': 'It is not enough simply to promote action for the environment; we need to emphasise the most strategic actions'. However, as highlighted in chapter five, there is a risk that EfS, focuses on easy actions that does not require critical thought; engage in controversial issues and debate; and focuses on making the situation less bad. Both teachers' understanding of the pilot projects resonated with Poeck and Vandenabeele's (2012, 543) approach to learning from sustainable development: rather than focus on solving specific sustainability problems, the pilot projects aimed at the 'empowerment of active, critical independent citizens who are able to decide for themselves and to participate in democratic decision making'. In terms of aspirations for action competency, Maria often spoke of the importance of pupils owning the pilot project; she was committed to developing the pupils' confidence in a range of skills; and ensuring that their classwork was of a quality to present to the community audience. Simon spoke about his aspirations for the second pilot project in terms of not only

engaging the pupils in challenging society, but also brining the community together, referring to the aspiration for “community activism at its best”.

This section evidences my understanding of the stark contrast referred to in the analysis of pedagogy, in terms of pupils developing generic skills that would help empower them to voice their views and opinions. The contrast between the schools resonates with Sosu and Ellis’ (2014) research on the attainment gap in Scottish education related to poverty. The development of basic generic skills can be perceived as a baseline for action competency, as demonstrated in the first pilot project. For example, an increase in confidence speaking to a wider audience; increased confidence researching and sharing views on issues related to sustainability; improved team working abilities; and improved ability to structure thoughts are considered action competencies. The development of generic skills was apparent during the first pilot project, in which Maria remarked that from an English perspective “attainment went up”. This is evidenced in: my own reflections on witnessing the pupils moving from confusion to developing presentations of a quality to proudly present in front of an audience; the reference to an increase in confidence which pervades the emotional essays; Maria’s feedback related to the class’ ability to structure; and the pupils’ reference to additional skills such as team working skills, research skills and presentation skills, during the period of evaluation. Evidence for such basic generic skills during the second pilot project was harder to account for given the absence of group presentations and progress towards documenting learning and presenting their ‘future message’. However, in the spirit of valuing pupil feedback, pupils made reference to generic skills both in the pupils’ short essays, in terms of teamwork, expressing themselves more freely, and confidence in speaking to different people. As acknowledged in chapter six, I was sceptical about such feedback due to the lack of structure in which this learning could take place, and the lack of group cohesion evident from pupils’ feedback. In response to such scepticism, the proposal for a memorandum of agreement, see section 7.3, and suggested questions for pupils and teachers, see section 7.5a, would support an evidenced based understanding of the pilot project. Whether or not we were creating a dynamic, visionary, creative, inspiring, pro-active and empowering classroom environment was a key concern during the pilot projects. This relates to the ownership pupils had over their own learning, a theme returned to in the following section. As demonstrated in chapter six, working with the abilities of the class was key to the success of the first pilot project. However, this

aspiration compromised in the second pilot project due to the absence of constructively reflecting on pupil feedback and progress; and incorporating pupils' views into classroom delivery.

The importance of creating spaces and engaging with practice outside the school was fundamental to the concept of EfS endorsed in this thesis. Such an understanding highlights that education cannot be viewed in a vacuum but relates to opportunities for youth to participate in their community and wider society (Maitles and Deuchar, 2006; Poeck and Vandenabeele, 2012). The meaning of action competency referred to in this thesis is not restricted to the school setting but involves engaging with and challenging the wider society, not commonplace in Scottish schools (Ross *et al*, 2007). An appreciation of action competency in schools was considered to have potential to feed into government policy on a range of issues, such as views on empowerment, in addition to providing a focus for the school to increase community cohesion. Thus the understanding of action competency had potential to go beyond the four walls of the school, engaging with both individual and structural change. 'Real world' learning was deemed important because knowledge becomes practical; there are opportunities to engage with values, priorities and the complexity of the real world; and it is a platform to learn skills and grow in confidence. This section highlights that the engagement with the outside world elicited comments from pupils in the first pilot project related to empowerment and confidence in voicing their opinions and being listened to by "powerful people", whereas the engagement with pupils in the second pilot project could serve to reinforce the concern that they did not have a voice. The launch at the University of St Andrews was intended to symbolise that the pilot project was not restricted to the four walls of the school and was intended to constitute a challenging and enjoyable learning experience, as reflected on below. The continuation of engagement with the 'real world' as a way of developing action competencies was very different in the two schools, as discussed below.

The University link was deemed valuable by Maria, Simon and the pupils. Maria emphasised that the pupils were helped by the University mentors and enjoyed the challenge of working outside the school to share their ideas. Simon reported that the University environment was one that many of the pupils would not consider. Simon reported that the opportunity to meet University students who valued learning was a positive experience and that pupils had asked him about how much it would cost to study at University, many pupils not realising that tuition fees and support were

available. This resonates with Forsyth and Furlong (2000) who highlight the uneven playing field in accessing University education. The majority of pupils from both pilot projects reported that they had found it really interesting talking with friendly University students and both teachers discussed the potential for University students to mentor pupils. Mutual learning between the pupils and the University students was an under researched area, as was the potential for pupils to engage their family in EfS. The University students reported that their engagement with the pupils was a positive learning experience. As one facilitator commented, “I live in a sustainable development bubble, I enjoyed the discussion as it opened my eyes to what people in the ‘real world’ think”. Unfortunately the potential to set up mentoring, a strategy identified by Sosu and Ellis (2014, see also Higgins *et al*, 2013) as effective at closing the attainment gap between socio-economic areas, was not developed.

Despite more of an emphasis in pilot project two on engaging with the ‘real world’ and inviting many visitors to the school, there appeared to be less active engagement with ‘real world learning’ involving all pupils. It should be acknowledged that pupil feedback on the second pilot project indicated that pupils were happy with their progress and that they had shared ideas or tried to influence someone in their local community on how it could and should be improved. The extent to which this is evidenced is reflected on in the pilot project write up in which I stress that pupils were not provided an opportunity to progress and engage with the thinking modes similar to pupils in the first pilot project. It was clear that engagement with pro-environmentally friendly behaviours, without critical thought, comprised many pupils’ thoughts about EfS as reflected in Simon’s feedback form. This is returned to in section 7.4*b*, which articulates insights into the various interpretations of EfS in the school curriculum arising from the engagement with practice. The pupils’ understanding of the first pilot project was very much focused on them “trying to find their voice” as acknowledged under support and understanding for the project. Adam reflected on the originality of the pilot project explaining, “I think it was giving us a chance to voice our opinion”. Such a view was prevalent in the emotional essays in terms of the community event acting as a platform for them to share their ideas in the ‘real world’. Thus in the first pilot project, pupils had the experience of becoming teachers, as the community event acted as a platform for them to share their own views. This had potential to focus on how pupils can engage with the wider community in the debate over sustainability and hold those responsible for change accountable (see Poeck and Vandenabeele, 2012).

The contrasting expectations of pupils during their MSP's visit highlighted the different level of engagement, and confidence to participate, in 'real world learning'. During the first pilot project, the majority of pupils, if not all, shared their views with their MSP as the classwork had prepared them to present their research and opinions. However, during the second pilot project, the majority, if not all pupils, were silent. After the MSP's visit to the first pilot project I realised that I should have briefed her to ensure she respected pupils' presentations. The lack of engagement with the pupils resonated with Mr Richardson's comment on his experience of a MSP's visit to the classroom. The potential for misreporting pupils' views and making value judgements was highlighted in the TES report at the time of the MSP's visit.

However, as noted earlier, during the second pilot project the pupils were very supportive and engaged when talking to the ex-drug addict and the Syrian activist. I was not present during the conversations with councillors, Simon reported that several of the pupils demonstrated that they were very capable, asking appropriate questions and engaging with issues that were relevant to their community, and Cheryl reported that they had felt "fobbed off". Considering the role of councillors to represent people in their jurisdiction, this was a disappointing experience. Simon highlighted that the pupils did not have the skills to invite visitors to the school and give them sufficient briefing, an area that should have resulted in reflection, important learning, and more support. Simon also highlighted the irony that although CfE focuses on responsible citizens the pupils are not allowed to access YouTube and Facebook which could have helped for research purposes. One visitor remarked to me as he left the second school, that pupils appeared to have little knowledge of current affairs or ideas about their community and world. The visitor's comment stands in stark contrast to the praise the pupils received during the first pilot project from their final event by the audience who were impressed and entertained. This indicated the extent to which classwork was preparing pupils to develop views and confidence to participate in discussions. Indeed, such engagement could potentially discourage pupils sharing their views and ideas outside the classroom, resonating with the warning of learned helplessness (Cross, 1998; Summers *et al*, 2003).

At the heart of action competency, and with the other thinking modes, are issues of aspirations, engagement and self-worth. As Eckersley (1999) explained,

'Any consideration of education must take into account the whole person – his or her outlook on life, expectations of the future, and values and attitudes.'

These qualities will shape a person's approach to all aspects of life, including education, work, citizenship and personal relationships. If young people believe in themselves (not just as individuals but also in their ability to contribute to society), and have faith in the future, anything is possible. If they lack these qualities, as the evidence suggests many do, no amount of conventional policy adjustment will deliver the results we seek" (Eckersley, 1999, 74; see also Kintrea, 2011)

However, as highlighted by Sosu and Ellis (2014; see Cumming *et al*, 2012; Gorard *et al*, 2012) initiatives to raise aspirations and engagement should be undertaken as part of other approaches if they are to close the attainment gap, and as such improve pupils' skills and confidence to share and discuss their ideas of a better future. In endorsing 'citizenship-as-practice' Poeck and Vandenabeele (2012, 544) explain that 'the focus is no longer on the competences that citizens must achieve, but on the democratic nature of the spaces and practices in which citizenship can develop' and that 'a lack of particular competences can no longer serves as a ground for excluding individuals'. However, the concept of EfS endorsed in this thesis highlights the importance of focusing on both competences, in the form of generic skills, and the democratic nature of spaces to facilitate inclusion in discussion, engagement and empowerment. As the above highlights, the first pilot project resulted in a learning experience that empowered pupils far more than the second pilot project. The analysis of pedagogy reflects on issues contributing to such a diversity in engaging with the thinking modes.

After the pilot projects, the above thinking modes were regarded as key aspects of my understanding of EfS. Their significance was reinforced through considering the way in which the two pilot projects engaged with the thinking modes and extent that other projects related to EfS in the schools build on the thinking modes. The ability to make comparisons between the pilot projects provoked thought on the different issues involved and potential themes to define the pilot projects, informing the following section. The research indicates that when working with pupils who are disengaged, teachers may need extra capacity and resources or there will be a risk of reinforcing existing inequality (see Sosu and Ellis, 2014), returned to in the following section.

As highlighted above, despite the similar theoretical underpinnings, the pilot projects resulted in very different learning experiences. The following section considers challenges and opportunities related to pedagogy in delivering EfS by

contextualising the insights arising from the pilot projects with reference to the broader policy critique.

7.4c Analysis of pedagogy

As Priestley and Minty (2012, 9) emphasise ‘implementation activity often raises as many questions as it addresses’. The focus of this section has been re-written several times as I reflected on the potentially challenging and controversial issues arising from practice and the themes that could inform the emphasis of this section. The final write up reflects the understanding that CfE, and by corollary EfS ‘is dependent upon the active engagement of professional and committed teachers’ (Priestley and Minty, 2012, 9). This section thus is written from a concern with pedagogy arising from the pilot projects and considered in relation with the discussion on current policy and critique as presented in chapter five.

The section commences with concerns over the clarity of policy to facilitate EfS before discussing the insights relevant to the pedagogy for EfS, arising from practice and contextualised with reference to policy. It is informed by the immersion in practice and contextualised with relevant literature under the following overlapping themes: concerns over clarity of policy to facilitate EfS; teachers’ interest and support for EfS; teachers’ confidence and ability to facilitate pupil led learning; teachers’ workload; and the challenge of interdisciplinary learning. This section raises challenges, especially related to teachers’ abilities to deliver the challenging pedagogy endorsed for EfS. The thesis thus supports Hulme *et al* (2009, 18) maintaining that ‘There is a need to foster and support inquiry-based curriculum development within and between schools’, as discussed in section 5.3a. The thesis resonates with McNaughton’s (2007, 634) finding that ‘[t]here is a noticeable lack of teachers’ voices in the current research and writing on sustainable development education in Scotland’. Such a view is supported by Priestley and Minty (2012, 1) who argue that ‘there has been little research to date on the new curriculum’, and attempts to address this by exploring teachers’ views on CfE.

It is important to appreciate that the reforms are very recent and that time will be needed to make the changes, including the teachers’ augmented responsibility and freedom to develop curriculum material. However, the importance of critically analysing both the policy context and interpretation at a school level cannot be over emphasised in order to make future predictions about, and act on, the likely direction of EfS in Scottish secondary schools.

A. Concerns over clarity of policy to facilitate EfS

The thesis proposes that key considerations are required to develop a strategy for EfS, as summarised in section 7.2. Key considerations include addressing the meaning of sustainable development; the controversial role of schools and theoretical underpinnings for EfS; and a commitment to work with teachers and pupils to understand practice. In light of such an understanding, the thesis highlights concerns over clarity of policy to facilitate EfS. Such concerns are expanded upon below through the sub-headings, arising after engaging with theory, policy and practice to develop a strategy for EfS. This introductory section briefly highlights concerns over the clarity of policy; articulates positive signs of progress as discussed in chapter five; acknowledges teacher confusion over CfE, which is expanded upon in the following sections; and acknowledges insights gained from the pilot projects into the various interpretations of EfS in the broader curriculum. The thesis calls for greater contextualisation through reference to the case for change and philosophy of education in CfE policy to facilitate EfS; acknowledges confusion resulting from the clarity of policy as a barrier towards implementation of policy; and supports calls for the need for continual discussion and innovation in conceptualising and evaluating EfS.

This thesis highlights concerns over the clarity of policy to facilitate EfS, and the nature of EfS endorsed, expanded on in the following sub-sections. In chapter five the consistency and clarity of change in key CfE documents was questioned, including the absence of global environmental changes and the place given to economic performance in key policy documents for CfE; the absence of reference to UNDESD in key policy documents; and concern over the generality of CfE documents (Carr *et al*, 2006; McNaughton, 2007). Indeed such concerns are introduced in chapter five, calling for clearer engagement with the philosophy of education for radical reform (see Gillies, 2004; Biesta, 2008; Priestley and Humes, 2010) and highlighting that the priority areas that led to curriculum reform fail to clearly indicate that the case for change, as set out in chapter two, is considered relevant. Concern over the predominant focus on the personal responsible citizen in CfE policy, rather than the political aspect of citizenship, and the need to engage with structural change and controversial issues as fundamental aspects of EfS has been raised (Biesta, 2008;

Poeck and Vandenabeele, 2012).

The above concerns over the scope of contextualisation and level of prescription beg questions over the remit of the key documents. It should be acknowledged that a commitment to EfS from the Scottish Government is endorsed elsewhere. The curriculum reforms have been celebrated as providing an opportunity to raise the status of EfS (WWF, 2009; One Planet School Working Group, 2012), addressed in chapter five. The status of EfS in policy as ‘a time of opportunity’ (Grant and Borradaile, 2007) has been highlighted in part one of chapter five through reference to UNDESD (Wals, 2012; SG, 2010a) and CfE (SG, 2004). The CfE has been praised as an exciting opportunity for EfS, including the One Planet School report (One Planet Working Group, 2012) which highlights that their recommendations for EfS, ‘does not ask anything of educators that is not already implied by Curriculum for Excellence, the revised General Teaching Council for Scotland (GTCS) Professional Standards and Teaching Scotland’s Future’. In CfE a commitment is made ‘to enable all young people to become successful learners, confident individuals, responsible citizens and effective contributors’ and the reforms considered ‘one of the most ambitious programmes of educational change ever undertaken in Scotland’ (SG, 2008, 8). In section 5.2b, *a background to Scottish policy on EfS*, commitments that will potentially benefit EfS are acknowledged, including the whole school approach to EfS endorsed; the potential for partnership working to enrich EfS learning; support and training for teachers; the importance of recognising achievement beyond qualifications, including relevant qualifications and awards addressing issues relevant to EfS; the focus on skills for a low carbon economy; and the establishment of a UN Centre of expertise, Learning for Sustainability Scotland. In the brief introduction to CfE, the approach to teaching endorsed, in addition to the new Standards for teachers (GTC Scotland, 2013), resonates with critical pedagogy as addressed in chapter four. As such CfE endorses reflection and developing critical literacy, tailoring class material to suit the abilities and needs of the pupils, and aligning assessment to support and encourage learning. The promising policy context in terms of CfE and EfS is indicated in Table 5 (6), in terms of values and capacities; themes across learning; experiences and outcomes; approaches to learning; interdisciplinary learning and the pedagogy endorsed. Indeed, the pilot projects were facilitated by the policy background, and both teachers understood the aims of the pilot projects as intimately linked to the aspirations of CfE. The extent to which the proposed pilot projects potentially relate to policy is

included in appendix 6.3 (3) and in the concluding section of chapter five. This conflicts with commentary that schools would be unwilling or unable to facilitate pupils engaging with EfS, or thought that challenges government policy (Chapman, 1999). The research, through reference to the first pilot project, indicates the potential for pupils to be given a platform to challenge and share their views, engaging the wider community in debate about EfS, and engage with the thinking modes as discussed above.

The theme of teacher understanding of CfE, and the potential diversity in provision of quality learning and teaching, is briefly introduced as a concern related to the clarity of policy to facilitate EfS, and expanded upon throughout this section. The role of teachers in facilitating EfS, as endorsed in this thesis, is informed by an underlying epistemological position that challenges the primary role of school as preparing pupils to contribute to the neo-liberal economic system. As emphasised in chapter five, the importance of teachers is endorsed in policy related to UNDESD and CfE and recent commitments to support teachers engaging with EfS. Teachers are considered key drivers in the delivery of the ambitious aims in which they are to be given more responsibility to deliver and develop EfS across the school (Donaldson, 2010). However, as discussed in chapter five, the consistency and clarity of change endorsed in CfE, including the approach to assessment, raise concerns over the implementation of CfE policy (Carr *et al*, 2006; McNaughton, 2007; Reeves, 2008). Priestley and Minty (2012, 5) reported that many teachers support the philosophy and ideas behind the CfE although they also reported concerns: ‘anxiety, and in some cases fear’ about assessment as they were unsure about what they were expected to do and believed that, although the focus is on the ‘capacities’, teachers would ultimately be judged on the academic performance of pupils (see also EIS, 2013). Priestley and Minty (2012, 9) conclude with reference to ‘a perceived lack of clarity in CfE documentation...and contradictions in policy documents that have created difficulties to teachers implementing CfE’. Indeed, different views expressed over clarity of policy documents and potential to facilitate EfS were demonstrated in the scoping conversations with teachers. The scoping conversations indicated different levels of interest and understanding of EfS including an emphasis on recycling and an emphasis on considering ‘the forces acting on them’; negativity about the lack of clarity and wasted resources arising from CfE contrasting with a positive response to the CfE as facilitating the profession to focus on broader learning outcomes; an indication that

frequently EfS in schools is not supported by all teachers and requires more backing; and an understanding that my proposed project fits well with the aims of the CfE. The issues raised during the pilot projects with Maria and Simon are discussed below, including insights into the understanding of the status of EfS in schools outwith the pilot projects.

This section reflects on the insights gained from the pilot projects into EfS in the curriculum. Considering the confusion over terminology related to EfS, it is not surprising that there is a wide range of interpretations over what constitutes EfS. Pupils' comments on why they thought the first pilot project was original are insightful, indicating their thoughts on the wider curriculum. When pupils were questioned on whether or not they thought the pilot project was original and in what way the pupils made reference to the opportunity to find out about their classmates' views; to voice their own opinions; that in other subjects teachers tell them what to do whereas during the pilot project they focused on their own interests; and that the pilot project was different because it helped them contextualise learning. As discussed in chapter six, Maria indicated that EfS was given low priority in the school and frequently was associated with climate change and recycling as opposed to ensuring EfS was relevant to the pupils, including a focus on the pedagogy that would result in pupils taking ownership over strategies for EfS. A focus on climate change with a potentially 'rival and narrowing focus' to EfS was highlighted by the ESD co-ordinating group (2010). It is not clear that policy will facilitate the concept of EfS as endorsed in this thesis. Relevant to systems thinking, for example, Maria commented that there was "no joined up thinking" in EfS delivery. In terms of whether CfE would facilitate EfS, Maria highlighted that many teachers felt "intimidated by CfE" which could result in a tick box approach to EfS without innovation. In the second pilot project Simon's feedback form was enlightening in terms of how the pupils approached learning relevant to EfS. Low expectations; a focus on individual change and recycling was prevalent throughout the second pilot project, evident from pupil feedback as discussed in chapter six. A couple of pupils commented on the feedback form that they expected the class to be a "waste of time". The initiatives running alongside the second pilot project did not explicitly address the thinking modes underpinning the pilot project, including the pedagogy. As highlighted by Cincera and Krajhanzl (2013), it is important to recognise that in seeking consistency between concerns related to sustainable development people may engage with less demanding, yet less effective behaviour,

and avoid more demanding behaviour that involves critical thinking. Therefore interpretations of EfS as a set of pro-environmentally friendly behaviours may be discouraging pupils to engage with the concept of EfS endorsed in this thesis with reference to the four thinking modes. Reference to less demanding behaviour such as switching lights off and recycling was clearly present in the second pilot project. In terms of the status of EfS in the curriculum Simon highlighted that he expected other teachers to find the pedagogy too difficult and schools that do participate in EfS become known for doing so and are thus the exceptions rather than the norm.

This thesis therefore supports calls for the need for continual discussion and innovation in conceptualising and evaluating EfS. The above discussion has presented the policy context as promising for EfS. However, due to concerns over clarity of policy, in terms of the philosophical approach to education and teacher confusion over practical delivery, the nature of EfS is expected to vary. Such concerns are expanded upon in the following sections in which policy critique and practice are reunited. The above discussion has emphasised the importance of focusing on the quality of EfS, including pupils' and teachers' understanding of what is being delivered.

B. Teachers' interest in and support for EfS

This section on teachers' interest in and support for EfS, drawing on both the policy critique and the experience of the pilot projects, overlaps with the following section on teachers' confidence and ability to facilitate pupil led learning. However, as discussed in the following sub-section, high levels of support and interest informing aspirations for EfS do not equate with classroom delivery. This section refers to variation in teachers' understanding and support for EfS and engagement with CfE. As highlighted in chapter five, research to date emphasises a lack of understanding in terms of teachers' interpretation of EfS and concern regarding teaching values (McNaughton, 2007; Hulme *et al*, 2009; ESD co-ordinating group, 2010).

It was evident from the scoping discussions (see section 6.1.3) that teachers varied in their support for EfS, ranging from an eagerness to engage with EfS as fundamental to the purpose of school to reporting that other teachers demonstrated a lack of interest and support. The thesis emphasises a range of teachers' responses to EfS in terms of level of interest and understanding from Mrs Simpson's emphasis on recycling to Mr Green's passion for engaging the pupils in considering "the forces that

are acting on them". A variation in teachers' interest in and support for EfS has been raised by others (Grant and Borradaile, 2007; Birley, 2011), including the ESD co-ordinating group's (2010, 1) finding that not everyone engaged with EfS is 'committed to the notion that learners need to be helped to come to their own understandings, values and commitments to action'.

Teachers' interpretation of CfE is key to the way in which EfS will be facilitated by current policy reform, as highlighted in the previous sub-section. This was highlighted by Maria who noted that CfE could lead to a tick box approach without innovation, contrasting with her own approach to CfE and teaching. The thesis celebrates the enthusiasm and interest demonstrated by the two teachers who were committed to the ideas behind the pilot project and the way in which they perceived the pilot projects as contributing to the aims of CfE. Both Maria and Simon were committed to the underpinning pedagogy, as presented in Figure 7 (1). Frequently our discussions were fuelled on potential and focused on inspiring and empowering the pupils. Simon, for example, explained that the pilot project was "the most challenging and exciting initiative" that he had undertaken and that he was learning a great deal from it. Maria discussed the relevance of the pilot project during a "twilight session" with other teachers on CfE and emphasised the many ways the project could develop. Indeed, there is diverse opinion related to teachers' engagement with, and support for, CfE (see Baumfield *et al*, 2010; Priestley and Minty, 2012; Priestley *et al*, 2014). Such variation in support and understanding of CfE is again reflected in the scoping discussions: with Mr Green's enthusiasm for CfE and Mr Richardson's disappointment that CfE was being imposed on teachers and the need for more explicit reference to EfS. As Priestley and Minty (2012) highlighted, many teachers were supportive of the ideas behind CfE although the way in which CfE related to their implicit theories of knowledge and learning was more problematic. Despite official claims of teacher involvement and increased professional status, research from the largest teachers' union in Scotland concluded that the 'final results of a national survey of secondary school teachers and further Education lecturers regarding the senior phase of Curriculum for Excellence have confirmed significant concern over resources, support and information, workload and timescales' (EIS, 2013). Relevant to the implementation of EfS as endorsed in this thesis, Priestley and Minty (2012, 4) highlight 'some teachers, particularly in secondary schools, perceived knowledge and learning as the transmission of content' and a lack of confidence to teach out with their discipline. This

concern was raised with Maria and Simon in discussing whether or not they thought other teachers would be keen to deliver and develop the model of EfS endorsed. As Maria explained, it was a risk and required great confidence in your class and ability to work with their feedback, an approach that other teachers may find challenging and thus would require extra support, discussed in the following section. Simon agreed with Maria maintaining, “a lot of teachers would be struggling with what we are doing in the sense that you are abdicating a huge amount of control. We are saying to these pupils go places...it’s risky, it’s a risk”.

In terms of teachers’ interest and support for EfS, and related understanding of the CfE, this thesis highlights that opportunities for pupils to engage in EfS are likely to be diverse, thus potentially reinforcing inequalities of opportunity. Thus the thesis stresses the need to incorporate a wide variety of teacher voice in the debate about EfS conceptualisation and implementation.

C. Teachers’ confidence and ability to facilitate pupil led learning

This section specifically reflects on the teachers’ confidence and ability to facilitate pupil led learning during the pilot projects. Building on the previous section, this section emphasises the differences in teachers’ capacity, even when teachers are interested and supportive of EfS. The section reflects on:

- the pedagogy underpinning the first pilot project;
- the pedagogy underpinning the second pilot project;
- insights into the political nature of the pilot projects and ‘real world’ learning;
- Maria’s and Simon’s views on, having piloted the project, their colleagues’ abilities related EfS, and the pedagogy endorsed; and
- concludes through articulating basic criteria which I predict would have improved the second pilot project and consider essential for EfS delivery.

As highlighted in chapter four, pupil led learning is integral to the understanding of EfS endorsed in this thesis: focusing on pupils’ interests and developing their understanding of sustainable development. The extent to which policy supports the pedagogy endorsed was highlighted in chapter five, through reference to an increase in flexibility and responsibility for teachers to tailor learning and teaching; encouraging reflection on the aims of learning; and a broader approach to academic achievement (SG, 2009; HMle, 2009; SG, 2011a; Education Scotland, 2012a). However, Birley

(2011) identified teacher confidence as a barrier for EfS implementation, reflected upon below.

The delivery of the first pilot project met my original expectations related to pedagogy as reflected through returning to Scott's (2002) responsibilities of an educator. Maria was constantly planning, as she explained, "I'm a professional planner". We had a shared understanding of plans that were continually adapted to suit class progress. The presence of class presentations, recaps and time dedicated to reflecting on the aims and benefits of the pilot project incorporated the theory of critical education in the first pilot project. Maria explained that the pedagogy was key to the success of the pilot project, "what I really like is that the pupils own it and will not forget it". As documented in the pilot project write up, the focus on knowledge of the class and asking the right questions was key to the delivery of the pilot project. The pupils also had an understanding and appreciation of the pedagogy. This was evident in discussions Maria and I had with pupils, and noted in the TES report. In the first pilot project, the focus on the final event and the presence of class re-caps; asking pupils for feedback in the form of presentations to the class; and individual discussions Maria and I had with groups, resulted in fairly low levels of confusion and a comprehensive model. The structure of the first pilot project resulted in an ability to ensure we could address individual pupils' concerns and tailor the project to facilitate valuing pupil voice both in the classroom and outside, for example with their MSP and through a community event.

The second pilot project highlighted challenges related to the pedagogy endorsed for EfS, reflected upon below. Fox's (2001) warning over constructivist accounts resonated with the delivery of the second pilot project in terms of rather hopeful expectations that without the basic criteria identified in Box 7 (1) pupils would take the initiative, develop their own knowledge and interests. On occasion, plans were drawn up to clarify the pilot project, to build a 'comprehensive' model, for example, through putting detailed timelines on the wall but this was not done. In contrast to the first pilot project, with a set number of pupils, teachers and location, the second pilot project was not delivered in a traditional classroom context. As I wrote in my reflective diary the second pilot project was rather "hectic, unpredictable, and confusing". In part due to the nature of the second pilot project, working with pupils' feedback and empowering pupils' voice was compromised. As highlighted in chapter six, pupil feedback was frequently not acted upon. This was frustrating, as pupils appeared

motivated when I spoke to them about issues. For example, a member of the food group explained that the documentary would be “brilliant” and that she was really looking forward to working on it. However, the following lesson she had another commitment. The pupils appeared unable to sustain the level of enthusiasm without support, recognised but not successfully acted upon, as Simon appreciated “it’s almost as if they need someone there to push them on”. Simon reflected on problems with structure and time for planning: “the difficulty was that there were so many things floating around in an ethereal way that we wanted to do. It was quite often difficult to get hold of the things we actually really wanted to do”. As already acknowledged, there were unrealised plans to explicitly value pupils’ prior knowledge of local problems during the second pilot project, for example, related to drug abuse. However, pupils needed more support and higher expectations to complete work, as demonstrated by the absence of completed work during the second pilot project of a quality to share with others.

During both pilot projects, I was aware that the pilot projects were ‘political’. This concern resulted in a parent withdrawing a pupil from the first pilot project before it started. During the first pilot project, pupils had spoken to their MSP on controversial and current topics, such as voting rights for prisoners and nuclear power. The final presentation had also raised questions over the extent to which “far- right views” should be given a platform, and engaged members of the community in thinking about political issues, as indicated from comments posted on the ‘topic trees’. I celebrated the political nature of the first pilot project as fundamental to EfS (Bray, 2010). However, the second pilot project raised concerns. Without structure for class debates in the second pilot project, an eagerness to engage pupils in classwork could have been considered as unintentional indoctrination, for example, when I spoke about McDonalds, or when Simon explained they had nothing to do in their area. There was more potential to capture opportunities that could have led to a rich learning context throughout the second pilot project, potentially providing focal points for reflection. For example, the episode in which the campus police were called to review a debate about protests, indicated the lack of exposure pupils had to political debates and to a certain extent justifies why teachers are uncomfortable about engaging with values and overtly political subjects. The potential for synergy between learning through community involvement and formal education was a theme identified by the ESD co-ordinating group’s review (2010, 4), including engaging pupils in ‘issues and decisions

[that] are only amenable to more concerted social action' and developing social skills. Despite more of an engagement with the 'outside world' during the second pilot project, 'outside' engagement during the first pilot project was more successful, in terms of pupil empowerment. Contrasting the pupils' involvement during the MSP's visit highlights the different extent to which the pilot projects facilitated 'action competency', as referred to in the previous section.

Both teachers expressed doubts about colleagues' ability to engage with pupil led learning, supporting concerns raised by teachers contributing to Hulme *et al*'s, (2009) discussion. Both teachers highlighted that the pilot project had set the bar high, that the pilot project was "risky", as noted above. This was significant in reflecting the nature of engaging with EfS and emphasising the level of confidence required to engage in pupil led learning. Variation in teachers' abilities to give 'pupils greater autonomy in their learning' was raised by Priestley and Minty (2012, 2) who acknowledged that 'this was not always easy as it required teachers to move out of their comfort zone'. As Maria highlighted, teachers will need varying degrees of support in developing strategies similar to 'our' pilot project: strategies that are informed by critical pedagogy and the four thinking modes and that require the teacher to become a facilitator, constantly learning from pupils, and adapting the class to suit pupil progress. A difficulty in facilitating pupil led learning and providing adequate structure highlights the need to question whether or not teachers are able to deliver such an understanding of EfS. Simon, for example, partly justified the confusion with reference to the idea that we were working on a new and challenging project, despite the potential to build on the first pilot project. In response to this confusion, this thesis presents the detailed write up of the pilot projects in chapter six; suggestions for development in section 7.5a; and resources that could be discussed and developed in the appendix 6.3 (8).

Considering the very different learning experiences highlighted in the previous section, the attainment gap associated with poverty is relevant. Sosu and Ellis' (2014) research highlighted that projects do not often focus on disadvantaged areas and call for poverty and attainment to be made more visible in the curriculum, relevant in the context of the very different pilot projects. Throughout the second pilot project, many of the strategies proposed by Sosu and Ellis (2014) could have supported delivery, including for example peer-tutoring, metacognitive training and one-to-one tutoring using qualified teachers, trained teaching assistants, or trained volunteers and

mentoring. Higgins *et al* (2013) discusses effective feedback, characterising quality feedback as: specific and clear, the identification of successful progress and constructive criticism; and providing opportunities for pupils to set their own targets. As detailed, during pilot project one we developed the structure to facilitate such feedback whereas the context of challenges rendered providing such feedback difficult in the second pilot project. Additionally small group work was identified by Sosu and Ellis (2014, 28) to help close the attainment gap, stressing that ‘Simply putting children together in groups to work will not result in effective learning for children from disadvantaged backgrounds’. Again whereas the group work was facilitated and monitored during the first pilot project, the second pilot project resulted in less supported, reflective and structured group work. Through comparison of the pilot projects, important characteristics that improved the learning experience in terms of engagement with the thinking modes are identified; see Box 7 (1).

Box 7 (1): Basic criteria to improve engagement with theory identified after the completion of the two pilot projects

1. There was clarity in class location, times and who was participating in the class and each group.
2. The teacher had an in-depth knowledge of the class and their abilities and employed this knowledge in the delivery of the class. This encompassed interests in the class and propensity to engage in school work and the appropriate balance between support and giving pupils responsibility.
3. The teacher had a more specific knowledge related to the work they were doing as part of the project, including their progress, and was able to work with the groups on a one to one basis if required.
4. The teacher had realistic expectations of the class and was keen to push them.
5. The teacher had a certain degree of authority, for example, there was consistency in setting tasks and ensuring that they were completed.
6. Pupils were able to work as a group, had a clear understanding of the aims of the project and their own progress and a timeline of the course.
7. There was time dedicated to class feedback and reflection. This could take many forms, including presentations on progress. This helped develop a comprehensive and organised sense of progression.
8. The organisation of a final event is hypothesised to have consolidated the learning and was an appropriate finish in terms of the pupils leaving with a sense of achievement and pride.

The thesis highlights the extent that the two teachers varied in their approach and ability to structure and facilitate teaching and learning guided by the theoretical underpinnings discussed and endorsed. As a consequence the different opportunities to engage with learning are reflected through returning to the four key thinking modes. As documented in chapter six, the extent that such basic criteria informed practice, despite discussions with teachers, emphasises the importance of explicit acknowledgement. The need for such acknowledgement raises concerns over the quality of EfS initiatives and the potential risk of reinforcing pre-existing inequalities in schools (Sosu and Ellis, 2014). This resonates with the concern expressed by

teachers in relation to CfE and ‘the potential for greater inequality as a result of increasingly diverse provision’ (Priestley and Minty, 2013, 3).

D. Teachers’ workload

The pilot projects highlighted the importance of teacher time and energy to deliver EfS, as endorsed in this thesis. Through reflecting on the theoretical framework in the previous section the importance of teachers dedicating time to evaluate, and adapt the delivery of the class to the pupils’ progress, is highlighted. At various points both teachers highlighted that the pilot projects required a substantial amount of time and energy. Simon commented that “it could take up your entire life...it is more difficult than any other school thing” and Maria was a teacher that clearly went “above and beyond” but also frequently worked overtime. Priestley and Minty (2012) reported that teacher workload and stress was considered a barrier to implement CfE: ‘nearly all interviewees indicated that workload has increased as a result of CfE’. This finding resonates with the campaign ‘Make Time for Teaching’ headed by the largest teaching union in Scotland, EIS (SEJ, 2013; SEJa, 2014; SEJb, 2014). The different levels of stress between Maria and Simon indicated the very different approaches to the pilot projects. I do not wish to over emphasise teacher workload and stress as a barrier to EfS during the second pilot project, particularly due to the failure to follow original plans, the pupil to teacher ratio, and other logistical issues identified in the write up. However, the thesis suggests that a lack of time and stress may hinder the development of quality EfS and as such should be addressed through more research and in policy as a barrier for EfS implementation.

E. The challenge of interdisciplinary learning

This section reflects on the tensions with interdisciplinary working, and the need for space in the curriculum for EfS as a subject or project, in addition to the commitment to the whole school approach.

At a policy level, the whole school approach is endorsed for delivering EfS (SG, 2006a). This contrasts with the approach to citizenship in England as a subject. Indeed citizenship has significant overlaps with EfS including the ambition to engage pupils in becoming politically active citizens. Concerns over whether or not citizenship should remain a subject in England resulted in a 12 year research study that resulted in

citizenship remaining a subject (see Keating *et al*, 2010). There remain diverse interpretations of what constitutes EfS, as already emphasised, and cross curriculum working proved challenging in the two pilot projects. Priestley and Minty (2012) reported tensions between inter-disciplinary learning and specialist subjects and that teachers did not meet with their colleagues to discuss the fundamental principles of CfE. The challenge of cross curriculum learning is expanded upon in the English portrait (HMle, 2008):

'Pupils' success across the curriculum is often founded on their strengths in literacy and communication skills. But all too often schools do not take account of pupils' language competence when planning and delivering courses and programmes across the curriculum. Connections across subject boundaries have been recognised in many effective schools particularly at the primary stages. In secondary, however, all too often subject departments do not take account of the learning across the curriculum when they plan pupils' learning experiences. As a result, learning remains too fragmented and opportunities for pupils to contribute learning from one area to enrich another are lost' (HMle, 2008, 16)

The ability of teachers to work with colleagues in both pilot projects was notable. Maria's colleagues did not offer support, as highlighted in chapter six. A similar concern was raised during the scoping conversations in which Mr Richard complained about lack of support for initiatives he had tried to implement in the school. Simon struggled to brief teachers who I had been told would work with us. This resulted in a confusing atmosphere and at times only one teacher for approximately 40 pupils. Both Maria and Simon spoke about the challenge, and importance, of giving control to the pupils as integral to the concept of EfS endorsed and the resultant additional responsibilities for them to work with the pupils to develop structure. Indeed, my discussions with teachers and experience in classrooms highlighted that it is not necessarily acceptable or realistic to endorse the pedagogy endorsed as important for EfS to the same extent for all subjects and thus relevant to all teachers. Chapter five highlights that CfE is supporting a pedagogy orientated towards engaging pupils in taking ownership of their own learning; contextualising such learning; and developing critical literacy (SG, 2009). Despite endorsing such a pedagogy across the curriculum and acknowledging that EfS across the curriculum is 'conceptually attractive' (Nagel, 2004), it is important to also acknowledge that most school subjects will result in

examination requiring specific course material to be covered. Indeed the final examination is often still considered the target for teachers (Hayward *et al*, 2008). The thesis thus highlights the importance of creating space in the curriculum and supporting teachers to engage with pedagogy in which the primary emphasis is on pupils developing their interests and concerns; taking ownership and contextualising learning; taking initiative; challenging mindsets; questioning worldviews; and facilitating research informing pupils' understanding of EfS. Reflecting on interdisciplinary learning, the pedagogy associated with EfS as endorsed in this thesis was deemed high risk by both Maria and Simon. Unless there is such space in the curriculum, and consistency in delivery from competent teachers, the scope for pupil ownership and engagement with the four thinking modes is limited. Thus if teachers are not confident, interested, or do not have the time, the concept of EfS endorsed in this thesis is likely to result in a poor learning experience.

7.5 Concluding remarks

Environmental deterioration and social injustice call into question the discrepancy between 'educated' and 'wise' and by corollary the legacy, and philosophical underpinnings, of our education system. Calls for a reform in perception and thought have major implications for secondary school education. This thesis has proposed key considerations for developing a strategy for EfS at a secondary school level and discussed findings arising from linking theory to practice relevant to the implementation of EfS in Scottish secondary schools. Table 7 (2) presents an overview of the thesis with reference to the threads as introduced in section 7.2. As outlined in Table 7 (2), reference to theory includes both the theoretical underpinnings for EfS, including EfS in policy, and the methodological approach as action research.

Table 7 (2): Synthesis of this thesis

Thread	Finding/ Argument
The case for change	<ul style="list-style-type: none"> An acknowledgement of the case for change is required as grounding for developing EfS, including the current and ideal society; the approach to mankind/citizenship endorsed; an engagement with research on behavioural change, and the normative role of the school.
The Methodology	<ul style="list-style-type: none"> It was argued that teacher and pupil voice is important to inform EfS, an area in need of development in academia. The thesis articulates an understanding of action research guiding the thesis, including the evaluation criteria appropriate for an intended action research PhD. Despite action research constituting an important shelter for this research, there were barriers to working with teachers as 'co-researchers' and creating feedback mechanisms for 'pupil voice'. The ability to deliver theory in the classroom; and time and effort dedicated to reflection varied between the two teachers. The thesis serves as an example to reflect on the challenges and opportunities resulting from the methodological approach.
Theoretical underpinnings for EfS	
<i>The theoretical underpinnings of the pilot projects</i>	<ul style="list-style-type: none"> The thesis argues that critical education; design and utopianism can be potentially fundamental components of EfS, comprising of four thinking modes as an analytical framework: systems thinking, future thinking, an emphasis on values and priorities and action competency.
<i>Lessons learnt relevant to the policy context</i>	<ul style="list-style-type: none"> The ideas behind the CfE are promising for EfS. However the nature of EfS is expected to vary and the status of EfS controversial. The policy context may not necessarily engage with an understanding of EfS as endorsed in this thesis, including structural changes and controversial issues. As discussed above, the capacity of teachers and challenges encountered to deliver EfS should be acknowledged.
Practical insights into the form of the pilot projects	<ul style="list-style-type: none"> The form of the pilot projects is documented in chapter six, with suggestions for a third pilot project included in chapter seven, and resources to support delivery in appendix 6.3 (8) Basic criteria should support EfS delivery; the failure to do so during the second pilot project highlights the potential for diverse delivery and thus opportunities for pupils.
Reflections on monitoring and evaluating	<ul style="list-style-type: none"> The search for appropriate methods to monitor and evaluate challenged original plans and developed in the classroom. The thesis offers an analytical framework to reflect on and evaluate EfS, and in-depth documentation of potential challenges and opportunities. As stated in thread two, the thesis articulates, justifies and celebrates concerns related to action research in a postgraduate context.

Significance/ Recommendation
<ul style="list-style-type: none"> An acknowledgement of 'sustainable development' and the normative role of the school should inform policy and practice. The extent to which this is explicit in policy and informs current EfS initiatives is controversial. Therefore the thesis emphasises the importance of focusing on the quality/ nature of EfS delivered relevant to policy and practice.
<ul style="list-style-type: none"> The methodology resulted in important personal learning for me as a researcher as detailed. Engaging teachers in reflection is important for critical education and EfS: the thesis highlights, through the second pilot project, the capacity for teacher reflection as a barrier for delivering EfS. This thesis presents an example of intended 'action research' and various methods to facilitate pupil feedback. The thesis reflects on how 'action research' could have been improved/ more authentic.
<ul style="list-style-type: none"> Design and utopianism are conceptualised as very relevant to guide EfS: through discussing and articulating a society in full operation, challenging current society and focusing on alternatives. The concepts contribute to developing the concept of EfS endorsed in this thesis that has a focus on pupils reflecting on their role in society and interests, articulating their understanding of sustainable development and taking initiative. The understanding of EfS endorsed emphasises the importance of engaging pupils in both structural and individual change, optimism about the future, research and debate and developing 'the tools' and know how to build on pupils' ideas. The relevance of the four thinking modes to design and utopianism are discussed to reconceptualise the concepts as relevant to EfS. In reuniting theory and practice, the nature of EfS is discussed through reference to the thinking modes.
<ul style="list-style-type: none"> The thesis emphasises the importance of focusing on the quality of EfS, including pupils' and teachers' understanding of what is being delivered. The thesis indicates challenges with teacher capacity to deliver EfS. The extent to which current reforms address these challenges is an area for future research.
<ul style="list-style-type: none"> The resources developed are presented as a model that has been discussed with teachers and pupils and is underpinned by the understanding of EfS endorsed in this thesis: engaging pupils in the articulation of their utopias and as such the design of a 'wiser' society. The resources were written with a key focus on system thinking; future thinking; values and priorities and action competency. The resources/ model is presented as a practical contribution to advance the theoretical and practical debate over EfS. A third pilot project could build on the learning and resources from the pilot projects, including teacher and pupil engagement with the epistemological debate and a stronger focus on reflection. The differences in the two schools merits more research, including youth empowerment outside the school.
<ul style="list-style-type: none"> The thesis demonstrates an ambition to translate the theory of EfS and action research into practice and a commitment to share and evaluate implementation, including my own, the pupils' and teachers' voice as authentically as possible. The thesis highlights the gap in evidence based research including the voices of teachers and pupils, and concern over the theoretical underpinnings of EfS initiatives. The thesis thus seeks to contribute to addressing this gap, including suggestions to support teachers monitoring pupils' progress and pupils engaging with self-assessment and feedback to improve the delivery of coursework.

The research is premised on a belief that unless people are empowered and driven by their vision of a better society there is very little hope for sustainable development and by corollary the future. Equally important is that this vision should not be one that

is imposed but rather formed through considering the context and influences shaping one's worldview and one's personal agency; building confidence to articulate, share and justify ideas and aspirations for the future; and listening to and challenging others' ideal futures. Through reference to design and utopianism the thesis proposes a conceptual framework for EfS, and aspirations are developed in practice. The thesis presents an in-depth account of translating theory to practice in chapter six, informed by a commitment to action research as outlined in chapter three. The nature of EfS developed during the pilot projects is then discussed through reference to the thinking modes. An analysis of pedagogy then expands on chapter five through discussing themes that were considered key to EfS policy and practice. The inclusion of a course descriptor for a third pilot project, informed by the two pilot projects is considered an important outcome of the PhD study, see appendix 6.3 (10).

I conclude, as stressed earlier, with the conviction¹¹ that the thesis provides a solid foundation to build on, as reflected upon below through reference to a third pilot project. As Lotz-Sistika and Burt (2002, 134) explained: 'with the emergence of a participatory research journey, the research moves away from finding 'truths' or even more tentative 'conclusions', to a process that presents openings for further (re)searching, for new quests, and ongoing travels'. Indeed, the research has fuelled potential for 'ongoing travels'. The following section thus articulates five overlapping key areas that could have been developed if time permitted a continuation of the research into practical implementation of the concept of EfS developed in this thesis. The suggestions draw on the discussions held with Maria and Simon over how the pilot projects could develop and my reflections on analysing the pilot project delivery with reference to the theoretical framework. The following section then articulates recommendations for future research to facilitate EfS through policy.

The thesis presents work in progress and a model to be developed, highlighting key challenges and opportunities. Far from being finished I hope that it will contribute to the debate conceptualising, and practical implementation, of EfS.

7.5a A third pilot project

This section acknowledges five areas that could be developed in a third pilot project,

¹¹ I acknowledge that concluding a thesis with reference to convictions must be appreciated through an understanding of my methodology in which the relationship of 'the self' with an 'activist orientation' is explicitly celebrated, as addressed in chapter 3 and section 7.3

including: increasing the presence of the theoretical underpinnings in the delivery of the project; investigating teachers' and pupils' understanding of EfS; focusing more on the reflexivity of teachers and pupils as 'co-researchers'; partnerships with other schools; and investigating youth empowerment.

First, a third pilot project could build on the resources developed, see appendix 6.3 (10) which, it is hypothesised, would enable deeper evaluation, potentially increasing the presence of the theoretical underpinnings through reframing the question. One potential focus or reframing of the question would be to explore the extent to which pupils can create ideal futures and actively use that vision to see themselves as change agents. In order to facilitate the role of theory in the delivery of the pilot projects, reflections resulted in suggestions for evaluation, depending on class ability: for both teachers and pupils, Box 7 (2); for teacher evaluation, Box 7 (3); and for suggestions to guide peer reflection and discussion of presentations, Box 7 (4). The suggested questions for pupils and teachers, were written after pilot project one as I reflected on how to facilitate the influence of, and help understand whether or not, the theoretical underpinnings acted as guidance for the delivery of the pilot project. The questions proposed to guide teacher reflection, emerged as I reflected on how to analyse the pupils' overview of pilot project two. The questions seek to encourage teacher reflection and discussion on whether or not pupils understand and are engaged with the project. The suggested questions to guide pupil reflection and discussion of classwork were asked by Maria and me when evaluating the pupils' presentations in pilot project one. It is acknowledged that for peer mentoring and evaluation the teacher should discuss constructive criticism. Drawing on the resources referred to in the critical reflection on the theoretical framework could help pupils understand and discuss the meaning of the four thinking modes, including systems thinking and future thinking (Gidley and Inayatullah, 2002; WWF, 2005).

Box 7 (2): Suggested questions for pupils and teachers to evaluate the model of EfS presented in this thesis

1. Future Thinking: Are you/the pupils engaged in thinking about the future and what they consider a “wise” future? Are you/the pupils forming a message for the future based on debate and research?
2. System Thinking: Are the pupils engaged with considering the environmental, social and economic aspects of their proposals? Have they considered their proposals on an individual, national and global level?
3. Values and Priorities: Are the pupils articulating and questioning their values and priorities?
4. Action Competency: Are the pupils growing in confidence in terms of generic skills and knowledge to participate in the development of a “wiser” future defined by the student?

Box 7 (3): Suggested questions to guide teacher reflection to evaluate the model of EfS presented in this thesis

1. Did the feedback reflect an understanding of the rationale for the project?
2. Did the feedback indicate that pupils were engaging with “causes” that they felt strongly about?
3. Did the feedback reflect that pupils had taken initiative and had clear plans on how they would progress?
4. What, if anything, did pupils report that they were gaining and was this justified/convincing?

Box 7 (4): Suggested questions to guide pupil reflection and discussion of classwork in the delivery of the model of EfS presented in this thesis

- 1) Is there a clear future message?
- 2) Do you agree with what is being presented?
- 3) Did you find it engaging and does it have relevance to you and your topic?

Second, a third pilot project could investigate teachers’ and pupils’ understandings of EfS: the key capacities required to engage the pupils more in the epistemological debate at the start, including the importance of knowledge that is co-generated and local, accessible, engaging, inspiring, non-fragmented and useful; the appropriate balance between hope and despair; and reflection on their own ‘empowerment’. It is important to question explicitly whether or not pupils understand the reasons behind EfS and how they define the need for EfS; and whether or not pupils perceive EfS as inspiring and relevant. Engaging the pupils with the meaning of EfS and the thinking modes was initially planned for the second pilot project but would have benefited from more systematic and formal investigation.

Third, a third pilot project could focus more on the reflexivity of teachers and pupils as ‘co-researchers’. The proposal for two memoranda of agreement was

suggested in formalising how this could be achieved, however, the ethics of such a contract would require further debate. The ethics of action research with an evolving methodology was under-theorised in this thesis, an area to develop (see Zeni, 1998; Eikeland, 2006; Brydon-Miller *et al*, 2006).

Fourth, it is noteworthy that the pilot projects were in very different socio-economic backgrounds and it is hypothesised that this influenced the delivery of the projects in terms of expectations and aspirations of the pupils, teachers and parents. Research to date emphasises the extent to which children are influenced by their socio-economic background, resulting in reduced opportunities for some pupils (DCSF, 2008; Perry and Francis, 2010; Sou and Ellis, 2014). The potential to bring participating schools from different backgrounds together was proposed after the first pilot project. However, due to the challenge and the quality of pupils' work in the second school this was not developed. Partnership with other schools is proposed as an exciting area to develop, to support teachers delivering the pilot project and enable pupils to share their different perspectives on sustainable development. This requires more research and much teacher capacity, especially considering the risk of reinforcing stereotypes resulting from overseas links (see Madden, 2010).

Fifth, a third pilot project could lead to investigate youth empowerment outside the four walls of the schools and potential for organisations and services to act on pupils' feedback. The way in which the two classes engaged, and were expected to engage, with their MSP was notable, as was the extent pupils shared their views with their local community. Another suggestion for improvement was building a 'human library' to facilitate pupils contacting people outside the school as part of their research. This would be particularly helpful for pupils who are less confident with communication skills and could potentially lead to work experience. Those involved in the second pilot project indicate the range of people that could contribute to a human library, from health workers, to councillors, to environmentalists, to University students addressing a range of sustainability issues. Indeed, there are organisations that help facilitate widening pupils' horizons in public secondary schools through school visitors from a wide range of backgrounds, for example, The Human Library Project¹² and Speakers for Schools¹³.

¹² <http://humanlibrary.org/>

¹³ <http://www.speakers4schools.org/>

7.5b Recommendations for future research to facilitate EfS

The thesis highlights the promising policy context for EfS; different attitudes and abilities to deliver EfS, thus the importance of pupil and teacher voice; and proposes a conceptual framework to aid in the delivery and evaluation of EfS.

The recommendations for future research, proposed below, to facilitate EfS are a consequence of the themes encountered through preparing and piloting the pilot projects. As discussed in this chapter the pilot projects enabled insights into additional classroom based projects associated with the aims of EfS, policy implementation analysis, and investigation of teachers' values, attitudes and capacity. However, it is important to highlight other recommendations, such as those that focus on local authority support as key to increasing the status and nature of EfS in secondary schools. This is not addressed in the following recommendations as a theme discussed with teachers, despite an appreciation of the importance and influence of local authority support developed through relevant reading. A number of reports conclude with policy recommendations for facilitating EfS (ESD co-ordinating group, 2010; Birley, 2011; One Planet School Working Group, 2012; Martin, 2013). This section articulates four key areas that emerged from this specific research journey.

1) A call for more empirical research with teachers. This thesis drew on a range of reports addressing the status of EfS in Scottish schools. As a result of engaging with such research, the thesis supports calls for empirical evidence investigating EfS in terms of teachers' perspectives on EfS: first order engagement and second order engagement. There is a need to examine the concept of EfS being endorsed and share good practice, with a focus on individual and structural change and the skills being developed.

2) A call for more empirical research with pupils. As above, this thesis drew on a range of reports addressing the status of EfS in Scottish schools and supports calls for empirical evidence investigating EfS in terms of pupils' perspectives on EfS: pupils' understanding and approaches to initiatives related to EfS (current and normative).

3) A call to engage with requirements to be accountable for, and monitor, initiatives related to EfS in policy. The research highlights that teachers need time and ability to become reflective; work with other colleagues; facilitate pupil-led learning; and develop appropriate assessment mechanisms. Policy should therefore ensure there are opportunities for teachers to reflect on and discuss new ways of teaching

appropriate for EfS and be accountable for initiatives relating to EfS in terms of pupils' level of learning. Indeed, the research suggests that this should be compulsory given the very different abilities of the teachers to facilitate learning and the resulting opportunities for pupils, and the risk of re-enforcing socio-economic inequalities. This research highlighted a risk that EfS may result in low expectations for learning if not delivered in a context of a clear framework for learning; high aspirations to meet learning outcomes; and methods for monitoring progress.

4) A call for policy and research to address both the challenges and opportunities for EfS implementation. Such explicit acknowledgement would potentially lead to useful clarity over the nature of EfS endorsed in policy. The endorsement of pupil-led learning and EfS is risky if understood as presented in this research, likely to result in many challenges (including the risk of pupils not engaging; a misunderstanding that pupils should just get on with it; and concerns over indoctrination) and potential opportunities (for example to increase pupil confidence to research, share and debate themes related to their own understanding of sustainable development; to develop generic skills; to engage the wider community in sustainability issues). The three recommendations above should support the policy community in providing case studies. These case studies could both challenge and inspire teachers in a continuous discussion over the meaning of EfS and implications for the classroom.

Epilogue

A conversation with Mum: “what do I say it’s about....just briefly?”

The research is about how we respond to the challenges of living in a world that has potential for more compassion, more respect for our environment and more thought about what is really important for a health-generating society and world. It’s about reflecting on the role of education.

In addition to the learning of ‘facts’ I argue that we must challenge what we want, question our society, and propose alternatives. I maintain that schools have a responsibility to engage with such a task. So, I proposed my understanding of EfS (an ambitious and idealistic one), one that was influenced by Dad talking about the importance of design and utopianism as fundamental to education, or the normative meaning of education.

I tried to embed these concepts in academia, link, expand on or use the academic debate to a more practical realm. I’m not sure how well this worked but my attempt is included in the final thesis as an important, or rather time-consuming, part of my ‘research journey’. Both concepts are proposed to conceptualise EfS as focusing on challenging the status quo, the design of society, and articulating a visionary holistic alternative, one that engages people in discussing high aspirations: what we really think is wise.

Further qualifying my understanding of EfS, I refer to EfS as education that engages with system thinking, action competency, future thinking and an emphasis on values and priorities.

I commenced with my ideal understanding of EfS: that pupils should discuss, research and develop the tools to build on their ideas for “wiser” development. Of course this is all very theoretical but did inform practice.

The understanding of EfS was developed through practice. Translating theory to practice and reflecting on the practice with reference to the original theory can be considered a “valuable contribution to knowledge”. You see, there are various interpretations of EfS from making the situation less bad with a focus on recycling and avoiding any mention of structural changes or controversial issues, to engaging pupils in thinking about their role in society requiring initiative and inspiration. Research highlighted that there was a need to incorporate pupil and teacher voice into the discussion over EfS, and a need to focus on the “quality” of EfS being delivered.

In the first pilot project, we looked at the “ingredients of society” and pupils worked in groups that resulted in them researching and then sharing their future message with their community. Oh it could have developed in so many ways, it was inspiring! I really felt we developed a good model. The pupils found the project both challenging and rewarding.

I wanted to involve the pupils in reflecting on and articulating their understanding of EfS and discussing how this related to my “thinking modes”, and, based on their answers, facilitate their evaluation of the pilot project. I could have done this for the first pilot project but there were time constraints and I had high expectations for the second pilot project having developed the model. The second pilot project, well, the project evolved differently to what was initially expected. There were issues with theory being translated into practice so unfortunately I wasn’t able to carry out my research as originally planned.

Practice highlighted key criteria necessary to facilitate learning appropriate for my understanding of EfS, including the challenge and importance of pupil-led learning, structure, pupil and teacher reflection, the importance of teachers’ knowledge of the class, community participation, inspiration, and relevance for the pupils. Interestingly, the extent to which the schools engaged with such fundamental aspects of EfS differed: an important research finding!

During the first pilot project we developed a model that “raises the bar” for EfS in addition to highlighting barriers for delivery. During the second pilot project I noted that frequently pupils had low expectations of what constituted EfS, and there were challenges related to teacher capacity that resulted in a not very successful attempt to deliver the theory.

And Mum, a PhD is fundamentally about research and demonstrating you are capable of good research design. You know, the methodology can be seen as quite different to expectations of traditional academia. It’s very much focused on doing something practical: ensuring the usability of the data. It needed a flexible design because I was working with people always adjusting to be appropriate...Quite different to: these are my questions, I’m off to answer them, now I can prove this. My thesis is based on a belief that teacher and pupil voices are fundamentally important to advancing the implementation of inspiring strategies for EfS. I sought to engage the teachers and pupils on how they perceived EfS and how they understood the pilot projects. However, and this is a very important finding, there were challenges in

meeting the original plans. The PhD did make me more confident as a researcher, provoking reflection on research and my position as a researcher: I gained skills working with people, reflecting on the methods used to maximise participation in the research, framing and presenting my thesis.

In summary...

The thesis presents what I argue is essential to consider when developing strategies for EfS: the need to draw on practice, policy and academia. I argue that an acknowledgement of “Sustainable Development”, including the “crisis” and opportunity; and normative role of the school should inform policy and practice. The extent to which this is explicit in policy and informs current EfS initiatives is currently dubious. Therefore the research emphasises the importance of focusing on the quality/nature of EfS delivered, relevant to both policy and practice.

The thesis argues that teacher and pupil voice is important to inform EfS, an area in need of development in academia. The thesis articulates an understanding of Action Research (AR hereafter) guiding the research, including the evaluation criteria appropriate for an intended AR PhD. Despite AR constituting an important shelter for this research, there were barriers to working with teachers as “co-researchers” and creating feedback mechanisms for “pupil voice”. The research serves as a good example to reflect on the challenges and opportunities resulting in the methodological approach.

The thesis expands on my understanding of an idealistic approach to EfS through practice: identifies the challenges, opportunities and insights into current curriculum resulting from the immersion in practice and presents a model to be developed. The pilot projects brought theory to life, and therefore constitute important grounding for discussing EfS implementation relevant to practice, policy and academia. The research presents a model underpinned by theory that “raises the bar” for EfS, including the attempts at evaluation for EfS, influenced by the teachers’ and pupils’ responses to the project. The research highlights the various interpretations of EfS and therefore a need to focus on the quality of EfS being delivered. The research highlights the potential for the policy context to facilitate EfS but indicates the quality of EfS may vary drastically, due to teacher capacity. Through comparison of the pilot projects, important characteristics that improved the learning experience in terms of the understanding of EfS endorsed are identified. These are considered important findings to address when seeking to improve EfS implementation.

“And are you happy with it?” Mum, shoots me a concerned glance.

Well, I really did what I set out to do. I wished I had left the second pilot project with the same feeling as the first: that the pupils were “buzzing”, had really engaged and were really proud with themselves. I wished that I hadn’t stressed so much in “academia”. I really enjoyed being in school, I really enjoyed feeling so inspired and working with young people. I wished that I had had the time to be able to discuss the final presentation of the second pilot project with the teacher. I wished it hadn’t been self-funded as it caused added stress. I was, and still am, so enthusiastic about EfS in schools, but now I worry about the opportunities for the pupils to find jobs that are in keeping with the ethics of EfS. I wished we had been able to develop this concern during the second pilot project, the teacher was keen but we didn’t have enough time. I’d like to be back in a school, maybe as a teacher. Yes, I still really want to do a third pilot project. I wished I had had the confidence to discuss my research constructively with others in my department, I tried but the review conversations often shot my confidence, but not my beliefs.

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Please note all photos have been removed and replaced with coloured boxes due to ethics of including photos of under 16s and identifiable locations.

Appendix 5 (1) 15 action areas identified in Scotland's action plan for the second half of the UN Decade for Education for Sustainable Development (2010)

Action 1: LTS will establish a Sustainable Development Education Advisory Group, involving key stakeholders, to provide advice about strategic direction on the aspects of this plan which relate to children and young people through schools and community learning. This group will have a particular focus on developing sustainable development education as a key context for learning within Curriculum for Excellence, and will contribute to the wider work of the LTS' Developing Global Citizens Reference Group.

Action 2: The Scottish Government will engage with partners to strengthen the understanding and commitment of school leaders to sustainable development education and global citizenship, promoting a whole-school approach and the wider participation of pupils in creating sustainable schools.

Action 3: LTS will continue to develop local and national professional learning communities through a combination of face-to-face meetings, effective use of Glow, exemplification and other communications tools.

Action 4: LTS will continue to provide CPD and support staff in sustainable development education for early years through to senior phase. This will include the use of Glow, exemplification, further development of LTS online resources and opportunities for face-to-face professional development.

Action 5: The Scottish Government, LTS and partners will work to maximise the impact of the Commonwealth and Olympic Games on children and young people's learning relating to sustainable development education and developing global citizens in schools. This will include promoting active lifestyles and health and wellbeing, greater understanding of sustainable development issues in an international context and the creative use of arts and culture.

Action 6: The Scottish Government will encourage initial and continuing teacher education establishments to embed sustainable development education within the ITE curriculum and beyond to ensure lecturers, student and qualified teachers are adequately equipped and motivated to deliver sustainable development education through Curriculum for Excellence.

Action 7: GTCS accreditation for teachers involved in sustainable development education activities in schools will continue to be promoted and supported. Opportunities will also be created for teachers accredited in this way to network and share their good practice with others. Opportunities to promote recognition of non-teaching staff will also be explored.

Action 8: The HMIE will support the development of sustainable development education within Curriculum for Excellence through self-evaluation and the school inspection process.

Action 9: The Scottish Government will support Eco-Schools Scotland as an international leader in the Eco-Schools programme and will promote partnership working with LTS and other organisations in supporting the implementation of Curriculum for Excellence and embedding a whole-school approach to sustainable development education (SDE) within schools, particularly within the secondary sector.

Action 10: The Scottish Government and partners will promote the use of outdoor learning experiences to engage young people in SDE in a meaningful and transformative way using the Curriculum for Excellence through Outdoor Learning guidance and online resources to encourage teachers to make the most of outdoor learning opportunities.

Action 11: The Scottish Government with SQA and other partners will ensure that sustainable development education is embedded within new assessment and qualification frameworks to support Curriculum for Excellence and provide mechanisms for recognising wider achievement in sustainable development education.

Action 12: The Scottish Government and partners will support active learning and engagement of children and young people in schools foot printing activities to help meet Scotland's Climate Change targets and reduce the environmental footprint of the schools sector.

Action 13: The Scottish Government will continue to develop the Greener Schools website and encourage schools to involve children and young people in the implementation of the school estate strategy which can support learning relating to sustainable development education.

Action 14: The Scottish Government will work with local authorities and other partners to encourage schools to implement sustainable school travel plans to promote health and well-being and more active lifestyles and help to meet Scotland's climate change targets.

Action 15: The Scottish Government will work with Skills Development Scotland, Scottish Renewables and other partners to create interest in low-carbon industries and support young people to develop skills for jobs in renewables and sustainability.



University Teaching and Research Ethics Committee
School Of Geography And Geosciences

12 August 2010
Zoe Lloyd
Geography and Geosciences

Ethics Reference No: <i>Please quote this ref on all correspondence</i>	GG6941
Project Title:	A Strategy to Regain meaning: Education for Sustainability
Researchers Name(s):	Zoe Lloyd
Supervisor(s):	Dr Rehema White

Thank you for submitting your application which was considered by the Geography and Geosciences School Ethics Committee. The following documents were reviewed:

- | | |
|---|----------------|
| 1. Ethical Application Form | 09 August 2010 |
| 2. Participant Information Sheet | 09 August 2010 |
| 3. Consent Form | 09 August 2010 |
| 4. Debriefing Form | 09 August 2010 |
| 5. Letters to Parent/Children/Head Teachers etc | 09 August 2010 |

The University Teaching and Research Ethics Committee (UTREC) approves this study from an ethical point of view. Please note that where approval is given by a School Ethics Committee that committee is part of UTREC and is delegated to act for UTREC.

Approval is given for three years. Projects, which have not commenced within two years of original approval, must be re-submitted to your School Ethics Committee.

You must inform your School Ethics Committee when the research has been completed. If you are unable to complete your research within the 3 three year validation period, you will be required to write to your School Ethics Committee and to UTREC (where approval was given by UTREC) to request an extension or you will need to re-apply.

Any serious adverse events or significant change which occurs in connection with this study and/or which may alter its ethical consideration, must be reported immediately to the School Ethics Committee, and an Ethical Amendment Form submitted where appropriate.

Approval is given on the understanding that the 'Guidelines for Ethical Research Practice' (<http://www.st-andrews.ac.uk/media/UTRECguidelines%20Feb%2008.pdf>) are adhered to.

Yours sincerely

Dr. Sharon Leahy
Convenor of the School Ethics Committee

Appendix 6.1 (2) Original course descriptor written by me to discuss with teachers and establish interest in a pilot project

Course Descriptor (work in progress)

1. Title
2. Rationale
3. Aims
4. Objectives
5. Content
6. Time
7. Teaching and methodology// Learning and teaching approaches
8. Assessment
9. Materials and resources

1. Possible titles.

- Design for Sustainability
- Design for ideal futures

2. Rationale: 'Our biggest challenge in this new century is to take an idea that is abstract – sustainable development - and turn it into reality for all the world's people'. Kofi Annan (quoted in Zadorsky, 2006: 1).

Education has always had an important role in preparing the youth to fit into society. The designation of the decades 2005-2015 "the UN Decade for Education for Sustainability" (DESD) reflects a recognition that our "development" has not been wise and that reform in education must be key to securing a sustainable future. Education is derived from the latin "educere" and to many the thinking behind the proposed subject is not radical: an opportunity to "educere" dreams and well thought out aspiration; an emphasis on understanding the context; a focus on confidence building to articulate and share ideas and a commitment to provide opportunities and support to put them into practice. Education is a political act: the legacy of past education and concepts of knowledge have played a fundamental role in creating our society, concerning both the achievements of the human race but also the rapid deterioration of planetary indicators and the widespread social injustice in the world.

Research into the barriers to sustainable development provides useful insights into areas that must be addressed in education for sustainability such as: the salience and contested meaning of sustainable development on an international, national, local and individual level; a collective mindset which fails to appreciate the interconnectedness between the environmental, social and economic spheres; a form of individualism not conducive to sustainable development and cynicism about the future and a lack of agency.

This proposed subject has been developed from the recognition that schools have a fundamental responsibility to: help students question the *status quo*; empower students to design a better future, not just focus on making the situation less bad, and ensure hope triumphs over despondency and despair.

The design of ideal futures will involve students in the design process and encourage students to question, challenge and engage with the current system pertaining to a variety of systems and scales. The following interconnected aspects of the design process: data gathering; asking questions about values and priorities; awareness of the system in which one is working in, including the synergies involved and resources available; thought about the consequences of one's actions; sensitivity to the multiple factors that will influence the decision making process; self-criticism; creativity and a vision make the design discipline a potential discipline to "teach" thinking.

The proposed subject incorporates thinking from a wide range of people involved in education and sustainable development including national educational policy to enable young people to become "confident individuals, responsible citizenships, effective contributors and successful learners". Without contextualising such characteristics by reference to the wider society these attributes remain meaningless and perhaps even undesirable. The proposed subject aims to deliver the knowledges identified as essential for the 21st century by Morin¹⁴, whose work was commissioned by UNESCO for the DESD, and also the four responsibilities of educators to learners identified by Prof Bill Scott and builds on his belief that to do more would be indoctrination and to do less would be neglectful:

1. To help them understand why a consideration of sustainable development is in their interests
2. To use appropriate pedagogy for active engagement with issues
3. To help learners gain plural perspectives
4. To encourage learners to continue to think about such issues beyond their formal education

3. Aims: The subject learning outcomes are as follows:

1. Foster an understanding of the interconnectedness of the world and available resources.
2. Encourage a consideration of the consequences of decisions and form opinions of right livelihood in considering the need for sustainable development.
3. Engage students with the development of a better society and ownership of the future.
4. Create a dynamic, visionary, creative, inspiring, pro-active and empowering (classroom) environment.
5. Create an opportunity to reflect on values and critically evaluate which values must change and which must be encouraged.
6. Make education relevant by bridging the gaps between theory and practice; between subjects; and between the "real world" and school.
7. Bring positive benefits to the community.
8. Ensure that the channels for public participation and the rights of the child are fulfilled.

The subject would have the potential to develop additional key skills including: a wide range of data gathering techniques, used to support arguments which may arise in class discussions; improved independent thinking, group work and communication skills.

¹⁴ Morin discusses the knowledges under the following headings: detecting error and illusions; principles of pertinent knowledge; teaching the human condition; earth identity; confronting uncertainties; understanding each other; ethics for the human genre.

4. Objectives: The emphasis is on self-assessment. It is suggested that considering the following skills, important to deliver the module aims, will aid students in their self-evaluation.

The student will: Know their rights and form a justifiable opinion of responsibilities and Develop: Research skills; Listening skills; Organisational skills; Team skills; Debating skills; and Action competency skills

These are discussed in more depth and involve key attributes such as: understanding the need to value the views of others for dialogue; growing in confidence to articulate and share interest relating to a particular issue both formally and informally; developing an ability not to become personal when issues are sensitive and confidence in dealing satisfactorily with questions and counter arguments; increasing one's agency to align values with actions and confidence in applying knowledge to real life; discussing and forming opinions of change agents and ways to transmit concern; developing an understanding of the benefits of an open mind for learning and becoming comfortable with questioning previously held assumptions; increasing confidence at making a personal contribution: "being yourself"; finding enjoyment and a sense of purpose in focusing on an area of interest and appreciating the interrelation between: the economic, social and environmental spheres and the individual, local, national and international levels.

A basic introduction to the learning objectives relating to the specific topics is as follows:

Energy system: Be aware of unsustainable and inequitable energy use and alternatives to fossil fuels and macro generation.

Health system: Form opinions on what health means, factors that influence health and the issues of responsibility.

Justice system: Form opinions on what justice means and our rights and responsibilities.

Green architecture: Form opinions about the meaning of home, both on a community and planetary level and consider the factors relevant for improvement.

Wealth and consumption: Form opinions about the meaning of wealth, the design of the global economy, the importance of wealth and consumption to the individual.

Media/Entertainment and Education: Form opinions of what education means and what skills and attributes a person should have in the 21st century/Form opinions of the influence of media and entertainment, the issues related to exposure and one's role models.

Food: Form opinions of the way in which food is produced and factors relating to reducing obesity and hunger.

5. Content.

1. Food
2. Waste
3. Health
4. Energy
5. Green Architecture
6. Media/ Entertainment and/or Education
7. Justice System
8. Wealth and consumption

The subject has been designed so that any issue will fit under the broad topic headings above which can be used to provide structure. Issues will not fit exclusively under one topic heading. This is an important learning objective: to appreciate the extent to which a systems perspective is essential and the interconnectedness of the world. Please see the topic remits attached which gives an insight into the wide range of issues this subject could address.

6.Time: It is expected that an hour a week will be allocated to pilot this subject over a four week period. Time allocated to the subject is dependent on discussions with the relevant bodies.

7. Learning and teaching approaches: Fundamental to the proposed subject is that it encourages pupils to think, as opposed to prescribing what pupils should think. Although it is expected that the discussions will emerge from the students' own knowledge and interest the materials and resources suggested will help teachers, students who are not exposed to sustainable development in the school curriculum and older students who want to expand their knowledge (please see attachment).

For older students the topic headings may be used if needed to initiate discussion but it would be the students' decision what to discuss by identifying the important areas for, or "ingredients" of, their ideal future. It is expected that a well-facilitated discussion will generate different perspectives and the interconnected spheres: the social, economic, and environmental will be appreciated. Different scales should also be brought into discussion: the individual, national and international.

The following 8 questions are guidance to encourage holistic thinking and motivating students to discuss and engage with the topics.

1. How is the current (socio-economic) system designed?
2. What are the consequences of such a design? Are they desirable? Who benefits?
3. What principles would guide the design of my ideal future?
4. Does the current system resemble my vision of my ideal future?
5. How should it be re-designed to produce an outcome that would resemble my ideal future?
6. What are the barriers to closing the gap between the current system and my ideal future?
7. Are my decisions in life reinforcing a system in which I want or one that I find dissatisfactory?
8. Should I engage in the opportunity to work towards my ideal future?

After an introduction to the rationale and the learning aims and objectives for the proposed subject the students will be encouraged to think about the main points, or "ingredients of, their ideal future. The teacher, or facilitator, could introduce the ideal of political manifestos to help students focus on fundamental issues involved in organising a society, such as the suggested 8 topics. After generating issues the class would split into groups and choose or be allocated a topic/ "ingredient". Each group would prepare for a class presentation and chairing a class discussion using the 8 questions as guidance.

The presentation should include:

1. What is thought of the status *quo*,
2. What disagreements they had,
3. Ideas for a better system,
4. Possibilities for action.

The structure of the presentation will be decided upon by the students and should incorporate salient thoughts pertaining to the eight key questions. Each group member should have a chance to present.

Depending on how detailed an exposition they have prepared, the following class may be facilitated by the presenting group as a dialogue pertaining to the issues raised. The teacher should encourage note taking and the rest of the class will have a chance to disagree or support the views raised by the presenting group. Those not presenting should be encouraged to explain how the issue being discussed relates to their chosen topic. The following week the second group will present, the next week the third group etc. After a group has presented and chaired the class discussion they choose whether they want to do another topic or focus on building "the product" and report back to the class on their experience. At this point it is expected that the groups would change as some would be recruited in "taking action".

The shift in pedagogical approach required if these "knowledges" are to be given priority may require significant changes to the accustomed pedagogy in addition to the necessity for teachers to be eco-literate given the function of education in preparing for the future. Teachers accustomed to a set curriculum may find the lack of structure challenging; this is intentional. Critical, systems and future thinking generates valuable outcomes that cannot be predicated as thinking is not mechanical. A recognition of two different teaching approaches popularised by Paulo Freire may help teachers to become aware of their teaching method. The banking approach regards students as passive recipients: knowledge is not problem-posing and critically considered, but it is about adapting to fit the world. Reality is considered "as if it were motionless, static, compartmentalized and predictable or an alien topic" (Freire, 2000: 45). Implicit in this approach is the idea that "ignorance is a solvable problem, that our culture is the pinnacle of human achievement, that knowledge is fixed and that learning is the result of teaching" (Orr, 2004: 11-12). On the other hand, a critical perspective encourages students to challenge the norms of society and be aware of the various influences in their lives. This approach acknowledges that students bring knowledge to the classroom that is valuable and that the teachers' role is to encourage and value the students' contribution and knowledge, facilitate enquiry and the creation of new knowledge. Social empowerment and action are regarded as important or even fundamental curriculum concerns.

The focus on encouraging students to articulate their own views and student participation presents further challenges. The nature of a personal contribution should be valued and a supportive environment created considering the focus on emotive responses to the situation and the personal contribution elicited. The teacher will need to be aware that students may have family members that earn their living or support aspects of the system that is discussed. This is not a reason to avoid discussing the issue but care should be taken to ensure that students are not offended in any way. Teachers must employ discretion in ensuring that students are not disempowered when taking their ideas outside the classroom.

8. Assessment: Current forms of assessment tend to value what can be measured and can be damaging to pupils who are made to feel as if they are failures. Prof Carol Dweck highlights the negative impact of external classification on learners. The assessment for this subject is designed to encourage the students to reflect on their experience. Each student will commence the year with an A and will have to justify to themselves, their peers and the teacher if they merit this grade. The students should be involved with setting their own assessments and a suggestion is that students write a letter(s) stipulating their intended aims and plans. Depending on the location of the school, opportunities will differ, possible suggestions include end of the year individual notebook explaining one's Utopia, which could potentially form part of a class book and be available to other students; 1000-5000 essay, poster, YouTube film, lecture/seminar/talk about an important aspect of their Utopia; a regeneration initiative with the community and letters to their MSP. The action research assessment has potential to initiate debate over the potential ways to transmit concern or enthusiasm for a particular issue whilst presenting an opportunity and building the confidence, to engage in realising one's vision. Points to guide self-assessment relate to the subject's objectives and it is suggested that students split their grade to relate to these different objectives. (Please see attachment for guidance for student self-assessment)

9. Materials and resources. Work in progress

Appendix 1: Rough topic remits (attachment)

Appendix 3: Suggestions for student self-assessment.

Students set their own self-assessment criteria relevant to the aims of this subject. Versions of the following questions should be addressed:

Have I increased my confidence in:

- writing to a stranger who has influence over a particular issue I feel strongly about, to a MSP for example.
- sharing interest about an issue I feel strongly about. Give examples

What initiative/ responsibility have I demonstrated?

Have I made an effort to work collaboratively with others? Give examples.

Have I increased my understanding of interrelatedness relating to:

- the social, economic and environmental spheres
- the individual, local, national and international level

Have I made an effort to:

- set personal goals
- work collaboratively
- generate enthusiasm
- encourage and challenge others
- listen to others

Have I considered what influences my thoughts?

Have I increased my understanding/ considered how the issues discussed relate to me?

Appendix 6.1 (3) My reflections on potential questions and responses relevant to designing utopic visions as a fundamental component of EfS

<p>"Well, you would have people saying they would like more shoes..."</p> <p>That would be OK, we would have to ensure they were covering all aspects of society or as close as possible to considering a society in operation. Articulating their current desires would be an important starting point. This fits into the consumerist, materialistic view of the world. They would need to consider whether this would be acceptable for everybody and provide a justification. Ideally I would like to commence with a very broad understanding of the "design principles" that would guide future societies. Hopefully many would wish for fairness, health, freedom...but we will see.</p> <p>"Everyone's utopia would be different through..."</p> <p>That would be great, then people could start to challenge each other's ideas and their own. I wonder if there would also be a lot of overlaps i.e. on the belief that we should be more respectful, for example, to the environment or close the gap between rich and poor nations. Justifying ideas and beliefs is a really important process. I believe that there is a lot of goodness in the world and recognising this can strengthen ideas as long as they are critically interrogated.</p> <p>"Isn't this just a fundamental part of being human? Strange to make it into a school subject"</p> <p>The form of the pilot project still has to be developed. I see design and utopianism as important concepts to remember in developing and evaluating the success of EfS. We want to consider the extent to which pupils have been considering the whole society and how it functions, we want to consider the extent to which pupils have articulated their hopes and alternatives for the future, we want to consider whether pupils have engaged in critique of the current society. I know this all sounds very theoretical but it also raises the bar for EfS. In terms of "design thinking" it can be considered as fundamentally different. The emphasis on critical thinking in schools is far more common: breaking down knowledge and analysing it. Well, design thinking is about building up ideas, creating something new. It's not about the older generations having the answers. It's a new approach to knowledge, a subject that depends on pupils thinking for themselves and of course researching to justify arguments. Of course, structure would be needed. I imagine a few sessions at the start introducing the idea of utopianism and sustainable development. Perhaps asking the pupils to write a letter from their utopic vision. The pupils then could split into the "ingredients of society", you know health, justice, food, energy, entertainment/media. Perhaps this could be organised in a similar way as political parties develop their manifestos and then start researching with a focus on how these areas would be considered in their ideal society, what are the differences between their ideal and current and how should this gap be closed. I imagine it would depend on the group whether this is done in teams, with many class presentations in order for the groups to consider how their topic links to other topics.</p> <p>"So do you want everyone to go and build their utopias?"</p> <p>That's a great question. I said at the very outset that there were four key aspects, or forms, of knowledge that I believed characterised my understanding of EfS. Future thinking, system thinking, an emphasis on values and priorities and action competency. But we can act on many different levels: learning to convince others of an idea and be open to other's ideas is an important step in developing mindsets for "sustainability" or rather "thinking" mindsets and identities, and inspiring others. Of course, forming ideals and not acting can lead to learned helplessness. I think the form of action would depend on the class' abilities and ideas proposed, however, I would hope that pupils would discuss their ideas with decision makers such as their councillors and MSPs, and the wider community perhaps through an evening of presentations followed by discussions or document/share their ideas through perhaps film or a magazine. I would hope that the subject would enable the pupils to investigate the channels for enacting the change they would like to see and perhaps providing feedback if channels for youth participation are not accessible. The reference to utopianism is very much based on practical relevance and the sharing of views or "youth voice" is an important part of this proposal.</p>

Appendix 6.2 (1) Original timeline for pilot project one as planned with Maria

Date	Action	Planned Outcome
Friday 24th of September	Pupils visit the University at St Andrews to be introduced to the pilot project	<i>Aware of aims of project</i> Pupils are split into "genius groups" First opportunity to research as individuals
Tuesday 28th September	Maria out of school on course. Pupils asked to reflect on their trip to the University of St Andrews Define the learning criteria for the course Reflective journals	<i>First entry in reflective journal</i> Set of personal learning objectives
Thursday 30th September:	Pupils split into their genius groups	<i>How will they conduct their research</i> A series of research questions to use in computing lab
Friday 1st October:	Computing opportunity. Computers booked Library period 1 and Business period 6	Pupil led research
Tuesday 5th October	Class based discussion/completion of learning journal.	Write up of activities completed so far Progress with personal outcomes
Thursday 7th October:	Computer session	
Friday 8th October	Computer session	
Holiday: 9th -24th October		
Friday 4th November	Presentation	

Appendix 6.2 (2) Expectations for pilot project and pupils' abilities written by me to increase my understanding of what I envisioned happening in pilot project one

Food

I couldn't think of anything to say. Suzie was going on about the importance of eating with your family but they didn't seem to really understand that it's not always possible and anyway I prefer just being free to choose when I eat. I do spend time with my family so don't see why eating in front of the T.V is a problem. Because this was a discussion in our group I got bored.

I don't like vegetables but I'm healthy enough, I didn't really think I would be interested in these conversations. I suppose it is important when you get kids being brought up on fizzy drinks and junk food. I'm fit but I get hammered quite a bit. Zad said alcohol should be banned, I could have been more grown up about that. I didn't realise it was banned in so many countries. There is no stopping me but I see where he is coming from. He was wrong about saying not drinking is a sign of self-respect, it's social suicide where I come from!

Jacki boycotts coke. At the start I thought she was being a right hippy and wasn't really listening but she had a fair point. She was quite persuasive.

Justice System

Lizzie's mum takes part in a charity called life lines and writes to prisoners on death row. I felt strange holding the letters he sent, I can't imagine him writing them from a world that must seem so different to mine.

Lizzie then showed us a video, it was of a man in a cell and he'd been there for 10 years, nearly as many years as I've spent at school. At first, I felt uncomfortable and didn't feel it was appropriate to learn about in school. It was too powerful.

Our group then looked at various human rights organisations and the ways we could get involved. Some of them even involved criticism about cases in the UK I'm looking forward to going this topic again because there were lots of things I wanted to investigate. We spoke about the war in Afghanistan. It's so complicated I don't know what to think. We're going to look at this next week.

Media and entertainment

We had a discussion today about the pressures to look good. Obviously it isn't a recent issue...think of corsets. It was strange I know that's what constitutes fun, the time set aside to enjoy life should be a really interesting topic. Maria helped by asking us what our hobbies are. I had a few ideas but I didn't want to share them, I just presumed everyone would have thought of them. Shopping featured a lot, going out for a drink and a couple of people played musical instruments. Most people have said that we have to stop consuming so much etc, and like act on our values which is easier said than done. It's easy to recycle but real change, that's hard to get into. I'm really interested in fashion and so all this talk about unsustainability is not something I talk about with my friends. It's not that I don't care, I just don't want to get stressed out with something I can't do anything about. I like to look my best not just for my boyfriend but because it makes me feel more confident, it's a sign of self-respect. Anyway, I feel quite defensive when people in the group, one girl in particular, are really negative about consuming and make people feel shallow if clothes are used to express anything. Wearing clothes from top shop and H&M is hardly going to make a difference: celebrities might but not me.

I found this website about ethical fashion. A few of us are quite excited about it and I want to try and make the others feel the same way when we do the class discussion. I could link it into my art project and what was said about Amnesty International. If the others were interested we could do an exhibition or something. I have lots of ideas for symbolic clothing. We could have world music or music with eco-friendly lyrics. I'll have to try and convince the others...

Wealth

It was hard to start a conversation but I think I'm getting better used to thinking of ways to get the conversation started. To be honest, I didn't want to work with this group (3 people) because they mess around and it's as if they have an aversion to saying anything sensible.

I know they didn't want to work with me either. They are all close friends. In a way I am ashamed at how I feel because in everything I have spoken about for this project I'm all about treating people equally but being in the "popular" group is important to me. It was a challenge to get on OK, I mean to talk without a barrier. There are lots of little groups in our year and I wouldn't say that bullying goes on but there is definitely a hierarchy. I think sometimes I treat people differently. I'd never be openly disappointed in working with the "popular" group as I'm always seeking their approval.

I was really surprised that the time passed quickly. It was obvious that we held different views about immigration and social support. In a way I am being challenged more to justify my beliefs working with different people and I feel as if I might be having the same effect on them. I'm glad that we have to prepare for the presentation as it's giving us more structure. I was surprised that not many people supported my idea to scrap GDP in favour of another indicator in my ideal future. In fact I was surprised about how Cheryl went on about immigrants taking our jobs. We're only just planning who will deliver what. Some of the group members obviously didn't bother to put much thought into this section. It was really my mind map that helped to give some substance for the class. For once in my life I was pleased that Kerry disagreed with everything I said, I'll need to make a list of our disagreements. I think I should listen more to make it really group work.

Education

It took ages for our group to actually do anything. We kept talking about other things....I wanted to start to split tasks up and hear what the others think about education but I didn't say anything. The others would have thought that I was too serious if I told them to stop talking...I know I shouldn't be worried so much what they think.

We were talking about education today and I said that school was boring and a waste of time. Some guys can get all the right grades and get all the praise but that doesn't mean they're properly smarter. I didn't have much else to say.

I didn't know how to start off designing the kind of school I wanted. I think I'm so used to this one it was hard to think of another way of doing things.

We have our presentation in three weeks. We all have roles in our group and chose areas we will focus on. I'm going to do something with football and what people think about sport because that's my passion. Maybe I'll look into what people think of P.E at school and why it's important. We need help to decide on how we can fit everything together and our message for the future.

Appendix 6.2 (3) Timeline documenting what happened during pilot project one

Wk	Date	Activities
1	24/9/10	Pilot project launch in St Andrews The launch comprised of the following sessions: Introductory lecture, Discussion, Focus Groups, Research, Conclusion. Pupils had topic remit packs to support them. <i>See below for details</i>
2	28/9/10	Clarifying aims and objectives The class were asked to recap on their time at St Andrews, discuss the aims and objectives of the pilot project as a class before writing in their reflective journals the evaluation criteria for the project.
	30/9/10	What's an effective presentation? The class were given instructions to present a message for the future related to their topic. The importance of a clear introduction, the main body and clear conclusions was discussed.
	1/10/10	Getting started with research The class worked in groups to discuss how to progress referring to their mind maps. The groups allocated roles to focus on specific areas. Maria and I spoke to individual groups on whether they understood what they were doing.
3	5/10/10	Working towards a presentation The class discussed the form of the final presentation and we set up a Wiki for feedback purposes and to share ideas. This session was similar to the previous session. The class was told that they would be expected to present in groups on the 8 th .
	7/10/10	Working towards a presentation Class researched their topics and structured their presentations
	8/10/10	Presentations and Feedback We recorded presentations and gave feedback to the individual groups. Maria and I used the following themes for feedback purposes: clarity of intro level of structure is it original? extent that presentation is engaging evidence of effort clarity of future message The class was given homework for the holiday and we had a class recap on the rationale behind the pilot project.
4	12/10/10	Holiday <u>Assignment for holiday:</u> <ul style="list-style-type: none"> Join the Wiki; Collect 2 shocking statistics about your target area as it currently exists. This will be used to create a PowerPoint for the introduction. Bring in or upload to the wiki two photos which you think captures something that links to your topic...or the project as a whole. Do not download these; they must be original to cover copyright laws. Submit three ideas that will make your presentation more effective in delivery. You can post these to your page on the wiki so that others can add to and comment on them. Using the structure sheet, bullet point a response to each of the points. <u>Structure for presentation:</u> 1. Topic . Make your understanding of the topic clear. 2. Present your understanding of the topic as it exist now: WHY IS YOUR TOPIC SO IMPORTANT 3. Include your initial reactions to your topic 4. Clarify your message to your audience 5. Identify areas/ sub topics and why they are important (if the presentation flows it will be easier to follow) <u>Research based sub-topics</u> 6. Back up points with evidence 7. Engage with your personal opinion/have drive/enthusiasm 8. Include ways your ideas can develop. Make suggestions for change and action <u>Conclusion</u> 9. How are you going to pull everything together? 10. What will the audience take away? WHAT MESSAGE ARE YOU SPREADING?
	14/10/10	Holiday
	15/10/10	Holiday
5	19/10/10	Holiday
	21/10/10	Holiday
	22/10/10	Holiday
6	26/10/10	Class Recap We discussed, as a class, the homework completed over the holiday; how pupils were working in the groups and the different roles in the group; how pupils excelled and what pupils considered they were gaining from the pilot project; the challenges encountered and plans for improvement over the next few weeks.
	28/10/10	Class Recap and Presentation Each group presented three actions (things they thought should be changed in society) and three reactions (evidence of change) and discussed these as a class.
	29/10/10	Working on Presentations

		The class worked on improving their presentations, including filming their presentations and then reflecting on areas for improvement. Several pupils started working on the introduction for the presentations at a "Community Event".
7	2/11/10	Working on Presentations Groups watched their own presentations, this resulted in dramatic improvement
	4/11/10	Preparation for an Event The class filmed an introductory clip to introduce the pilot project to their community. The class prepared for the MSP's visit. Each group prepared 50 words introducing their presentation for the programme.
	5/11/10	Outside Engagement MSP visit and a visit from a TES reporter, <i>See below for details.</i>
8	9/11/10	Preparing displays and rehearsals in the hall
	11/11/10	The Evening of Visions for Our Future Morning: preparation of visuals for hall Evening: the presentation <i>See below for details.</i>
9	16/11/10	Period of Evaluation Pupils completed basic anonymous feedback sheets and were asked to interview each other on several themes, <i>See below for details.</i>

Appendix 6.2 (4) Pupils' attitudes to, and understanding of, sustainable development expressed via feedback sheet during pilot project one

Pupils' comments on why they think society should change, expressed at start of pilot project one (via feedback sheet)

Yes, Society should change because:
 "Because there is too much pollution etc"
 "There is too much poverty and homelessness in our society today"
 "If we don't make the change bad things will happen"
 because I think are society today is more judgemental than it use to be and some things should change about the way we are.. "
 "Somethings in society that are right "
 "Some things are sexist and corrupt like the punishment say someone broke a lay in sex (underage sex) "
 "There are some things in society that are not right"
 "I feel society should change because we do things that are damaging to us and the others around us "
 "We are ruining the planet with our ways"
 "it should because we are ruining the planet with our lifestyle".
 "because there is too much bad stuff happening"
 "Societys attitude to some important aspects of life is one of not much interest"
 "There are many things that need to be changed for the better"
 "Our society is not perfect by any stretch and we need to sort out the present so the future will be sorted"
 "There is so much suffering and confusion in this world and it needs to be changed"
 "Society is corrupt by greed, lust and anger. I don't think the world needs to be perfect but I think that we need some stability from our governments"
 "As the society we live in is not in a good way and therefore we need to start the way we live to have a better society"
 "We aren't looking after our resources properly. And people aren't looking after each other- our society is quiet selfish"
 "We are dependent on several things that may not be around forever"
 "There are lots of things in society that are very wrong and need to change if we want to live the same way we do in the future"

Pupils' comments on the responsibility for the change they would like to see in society, expressed at start of pilot project one (via feedback sheet)

Government	Individuals	Both
"They have most power" "They are in charge of everything and make decisions" "Governments may inspire many. They are responsible for their nations. The way they decide to run it can help"		"Because if the government changes the individuals will change" "It is not just the government's country it is individuals world too so they should have a part in the decisions made" "I think the responsibility to lead the change" "People or the government alone won't be able to change the society alone" "Both parties need to work together to make changes" "Individuals have a responsibility to change themselves but the government has responsibility to help the people" "The voice of many people can make a bigger change" "...everyone planet so both" "...because the government can tell/ encourage people to change but they have to go with it or compromise" "Individuals are important as they will present ideas that are good for the people but not necessarily the best for the government in the way of spending, however the government is needed to present it to the population and fund change" "Its not just the governments job" "Its not just the government world but they have control over it" "They have to work together to help change- get as many ideas as possible and bring them together" "Neither have the power to change people's minds without the other" "A collective effort would move everything along quickly and make a statement of intent" "Governments need to initiate rules, but people need to follow them if anything is to change"

Pupils' comments on who is likely to initiate the change they would like to see in society, expressed at start of pilot project one (via feedback sheet)

Governments	Individuals	Both
<p>"Because if the government were to change then the individuals would change"</p> <p>"Power to change"</p> <p>"The Government has the power to start change"</p> <p>"Governments have a lot of power of people so if they did something individuals will follow"</p> <p>"They have more power on what happens"</p> <p>"...because it seems they make almost every decision made by them"</p> <p>"They are in charge"</p> <p>"SO our lives at school are better"</p> <p>"People don't like doing things unless they are told to by somebody else"</p>	<p>"I feel if the government wanted to change things then they would have already done it"</p> <p>"Individuals realize what's happening in the world"</p> <p>"The government are so power hungry they lose sight of the basic needs of a country. Individuals may be more open minded and may even stop some of the problems"</p> <p>"The Government won't and haven't changed things yet, so people have to stand up and bring it to their attention"</p> <p>"The government are currently occupied with Budget cuts and recession"</p>	<p>"I just do"</p> <p>"Individuals will present the initial ideas and drive them into the governments view but the government is needed to campaign widely and present the ideas to the general public"</p> <p>"I think teamwork is the key individuals will listen to the government and the government will listen to individuals"</p>

Pupils' comments on their level of concern about sustainable development compared to the government, expressed at start of pilot project one (via feedback sheet)

More concerned about sustainability (ie respecting the environment and social justice) than the government, ie the "people in power".	Less concerned about sustainability (ie respecting the environment and social justice) than the government, ie the "people in power".
<p>"The government don't seem to care. They only seem to care about money and war"</p> <p>"The people are the majority"</p> <p>"How are we supposed to keep the "people in power" is we do not sustain it"</p> <p>"The government isn't meeting their targets, and if they were concerned they would have done more. I think the Scottish government is more concerned than the English"</p> <p>"I think they are too pre-occupied with money instead of everyday things"</p> <p>"As the government can sometimes go against what the public want and can do things that go against their views"</p>	<p>"It's the people in power that can change things"</p> <p>"The government hear the full picture about what is going on-the public don't know it all". (8)</p> <p>"Because the government make decisions, so if they asked us to change the environment we may agree"</p> <p>"With the government changing their views with budget deficits things are going to change for us. Therefore, I am more concerned with the internet"</p>

Pupils' comments on their level of concern about sustainable development compared to their parents/guardians generation, expressed at start of pilot project one (via feedback sheet)

I think my generation is more concerned about sustainability than my parents'/guardians' generation	I think my generation is less concerned about sustainability than my parents'/guardians' generation
<p>"Because our parents' generation never really tried to do anything to change but we are trying to change"</p> <p>"They invented the low energy lightbulb"</p> <p>"We are always being told about climate change at school"</p> <p>"We are more concerned because it was not such a problem when they were younger"</p> <p>"Our lifestyle is too luxurious and we don't do basic things they did"</p> <p>"Things in the world have worsened since our parents' generation"</p> <p>"It's our future that is going to be affected, theirs won't be as much"</p> <p>"We are being educated differently from previous generations and are learning the dangers"</p> <p>"Our generation is in a worse situation than our parents it was our parents who helped cause the problem"</p>	<p>"Parents talk more about the government etc than my generation"</p> <p>"Because my parents are always talking about recycling or walking not driving when I usually would just chuck anything in the bin or just hop in the car"</p> <p>"They are more aware of sustainability"</p> <p>"Parents' and guardians' generation have the responsibility for us they must decide what right for us"</p> <p>"My generation does not know enough about sustainability compared to our parents and this topic helps beat this problem"</p>

Appendix 6.2 (5) Pupils attitudes to, and understanding of, pilot project expressed via feedback sheet during pilot project one

Pupils' feedback on interest in the *introductory lecture* for the launch of pilot project 1, expressed via feedback sheet after launch

"I found this lesson entriging. To be given the opportunity to debate and maybe even change certain parts of our society is quite remarkable. But I feel this project is slightly daunting by its openness"

"I found this lecture quite interesting because it made me think about my society and the way I live"

"I found this lecture very interesting, I am excited at the prospect of being able to change the future of our own society"

"I found this lecture very interesting if not quite baffling at some points. I am optimistic about the prospects this opportunity it will offer us"

"The points were good but the presentation of ideas need improvement"

"I think that it was quite interesting. I found the images of other countries very surprising and I think it will be interesting to design a different society"

"I found this lecture quite interesting because we were told we could change certain things in society which I liked the thought of"

"I found this lecture insightful and mind opening. It presented lots of ideas about our society and was shown to us in a different format than we are all used to"

"I found this lecture interesting and frightening"

"I found the lecture very interesting and thought it brought up ideas that we hadn't looked at before"

"I found the lecture very interesting, it was really though provoking and gave me a couple of ideas"

"I found the lecture enlightening because we are always told how good society is when actually there are a lot of flaws"

"I found this lecture quite interesting and am optimistic about the prospect of taking part in the opportunity we have been given"

Pupils' feedback on understanding of the *introductory lecture* for the launch of pilot project one, expressed via feedback sheet after launch

"I initially found it quite confusing but after further discussion I understood what the vision was"

"I found the lecture really confusing at first because it was not specified what we will learn or what we have to do but I gradually understood the purpose"

"I was slightly confused in certain aspects of the lecture maybe if we looked further into parts of the lecture it would be easily understood"

"At first, I was extremely confused but after we had a discussion about it, I understood it much better"

"Not very. It was slightly long. Lots of words of hers might not understand albeit from quotes"

"I found some of the concepts broadcasted to us difficult to understand in the time given"

"At times the lecture was confusing simply because I didn't know what the intention of the cause was"

"Some of the points that were made were quite confusing but it made me think and it was well explained"

"In the end I managed to think it through and figure out what it all meant"

Pupils' feedback on understanding of the ideas behind pilot project one, expressed via feedback sheet after launch

"Yes, I understand that it will be good to find out what people our age want"

"Yes, the ideas are to boost confidence as well as get our views across"

"At first I wasn't completely sure of the ideas bit I'm positive that with focus the ideas will be made more structured to me"

"Yes, and I think there very good and give us the potential of making future change"

"Yes, I think we want to challenge what we want the future to be like"

Pupils' feedback, on the *feedback and discussion session* held at the launch of the pilot project, expressed via feedback sheet

Feedback and discussion					
Q1. Did you find the feedback and discussion session interesting?	1=Yes, it was interesting	2	3	4	5=No, it was boring
Total no. of pupils (27) No. of pupils indicating specific numerical value to rate session	7	14	4	1	1

Pupils' feedback on the *feedback and discussion session* held at the launch of the pilot project, expressed via feedback sheet after launch

"Everyone was involved"
 "We were able to generate good ideas as a class"
 "I was interested to hear other peoples' ideas and clear up the confusing parts of the talk"
 "We got ideas coming and it helped to make us understand what the process was"
 "It gave us a chance to discuss everything we had been told and it helped to make everything much clearer"
 "We discussed lots of controversial topics"
 "Heard different views from people"
 "It opened my mind to all aspects of destruction and made me realise what needs to change"
 "It helped to make the task clearer in my mind"
 "Because we got to voice our opinions and things we didn't understand were explained"

Pupils' feedback on the *focus group session* held at the launch of the pilot project, expressed via feedback sheet after the launch

Q1. Did you find the focus group seminar session interesting?	1=yes, it was thought provoking	2	3	4	5=No it was boring	No answer
Total no. of pupils (27) No. of pupils indicating specific numerical value to rate session	11	12	3	1	0	0
Q2. How would you describe the overall feeling in your group?	1=they seemed to love the session	2	3	4	5=they seemed to hate it	
Total no. of pupils (27) No. of pupils indicating specific numerical value to rate session	6	16	4	0	0	1
Q3. Were you happy to have the facilitator in your group?	1=Yes, she/he was helpful	2	3	4	5=No, I didn't feel she/he helped	
Total no. of pupils (27) No. of pupils indicating specific numerical value to rate session	14	10	0	2	0	1
Q4. How did you find your topic?	1=The topic was interesting	2	3	4	5=I didn't find the topic interesting	
Total no. of pupils (27) No. of pupils indicating specific numerical value to rate session	10	12	3	0	1	1
Q5. At the end of the session I was....	1=happy I understood what to research	2	3	4	5=had no idea what to research	
Total no. of pupils (27) No. of pupils indicating specific numerical value to rate session	12	9	5	0	0	1

Pupils' feedback on the level of debate during the focus group session held at the launch of pilot project one, expressed via feedback sheet after the launch

"No we all got on very well"
 "Yes, whether some forms of renewable energy were better than others because we had no research"
 "We agreed on certain ideas like how drug abuse is bad for you. Or does prescription drugs weaken your immune system. There was not much we disagreed upon"
 "Not particularly. We generally listened to each other's views and found most peoples were similar"
 "We had no disagreements, we all agreed on ways forward etc"
 "We all had similar ideas about the topics that we discussed"
 "We had a disagreement about Katie Price"

Pupils' suggestions for improving the *focus group discussion session* held at the launch of pilot project one, expressed via feedback sheet after the launch

"If the woman talked about the right thing"
 "Have longer at this session"
 "More space to work but it was really good and the closeness to everyone else meant that we could gain a fuller understanding of how to do it well"
 "The session could have been better if it was longer and we explored every avenue of the topics
 It was quite short we didn't get through much I would have made it longer"
 "Interesting facts on energy beforehand"
 "It could have been slightly longer as once we had got to the rooms and started it was almost over"
 "It was overall quite fun"
 "Slightly more time"

Pupils' feedback on the research session held at the launch of the pilot project, expressed via feedback sheet after the launch

Research session						
Q1. Did you enjoy the research session	1= Yes	2	3	4	5=No	
Total no. of pupils (27)	7	11	8	0	0	0
No. of pupils indicating specific numerical value to rate session						
Q2. Did you feel as if you needed more support?	1= Yes, I didn't know how to start				5=No, I was happy with my progress	
Total no. of pupils (27)		4	9	7	6	
No. of pupils indicating specific numerical value to rate session						

Pupils' suggestions for improving the research session held at the launch of pilot project one, expressed via feedback sheet after the launch

"More websites possibly, to help people to start researching"
 "The student leader to help"
 "Longer time in the computer room"
 "If you were given help on what kind of things to research on"
 "I think more structure should have been given for the things which we should be researching"
 "The focus group leader could have given us topics to research- it was good though"
 "Clearer on what we could be doing and researching"
 "More explanation of what we were meant to research"
 "Get students to help more with research"
 "More time"
 "More help in research group"
 "More time"

Pupils feedback on whether their views had been challenged during the launch of pilot project one, expressed via feedback sheet after the launch

"It has made me think more critically about the way society is run and opened my eyes to what really goes on"
 "No, not really"
 "No"
 "My views had not been altered"
 "My views have not changed yet I understand something better though"
 "No"
 "No, They remained the same (I knew a lot about energy)"
 "I have become a lot clearer in what everything is about and now I will enjoy it more"
 "Not really, but it made me see a lot of different options in my area"
 "I am very interesting in continuing this project"
 "I am very interested in continuing in this subject"

Appendix 6.2 (6) Pupils' emotional essays, written as part of their Higher English course, related to pilot project one

Essay 1

Latel felt terrible, what would I do? A sickening mixture of guilt and worry was unsettling my stomach. I was late. The 6'oclock deadline had passed and the heat of the bus was making me feel tired and faint. My fingertips were rough from constantly shaking on the old fabric of the bus seats. The dense air was overwhelming.

It would be at least another hour before I arrived in Auchencairn. The monotony of the never-ending journey was annoying me. I could do nothing. Concealed within this container, the roads were deciding my near future. All I could do was think about the presentation and how I let my group down and how I had abandoned the audience and how I had learned my words for nothing. I was not sure if I should continue to read my notes in the hot red light of the bus in hope that my group could still perform, perhaps later than the others or if I should just give up.

I was damp from the thick air. The taunting clock showed 6.45 and I was no longer able to read the script as my hands were shaking violently. I felt faint. I put my worried eyes to rest, as my heart rate slowed and my nerves relaxed, the world changed from red to black.

I awoke with a start. Wide-eyed I began searching for the clock. It was 6.50 but best of all the orange streetlights of Auchencairn surrounded me. I took a deep breath in through my mouth and out through my nose, my shoulders were at rest and my face wore a smile. I was relaxed. The bus was at school.

Getting off the bus I felt a horrible sense of isolation. People, team mates were laughing at me, sniggering secretly behind my back. What was going on? Empty inside I trundled forth to the awaiting school.

I began sprinting fast in the heavy rain. The wind rushed past my ears. The water bounced off my face. I was finally free of that nightmare bus journey. Racing across the car park I felt a certain enlightenment that I had been lacking all day. Dodging the large puddles I smiled to myself hopelessly out of breath and wet through to the skin I felt light a paralysed man taking his first ever recovery steps. I ran through a large arched tunnel to get into the school grounds and for a moment the crashing rain stopped and I could hear the relaxing echo of my quick feet.

The rain hit my like a brick wall when the arc came to an end. I could see the open door now only a maximum of 50 meters away. The light was seeping out trying to fight its way into the viscous dark. It was reaching out for me like a welcoming handshake.

The light made me squint but it was so warm and dry that I couldn't force a complaint. I stopped sprinting and walked through the school foyer and caught a glimpse of myself in the reflection from a window. Out in the dark of the early night sky I looked like I had fallen into a swimming pool. I was very, very wet.

I walked down the corridor outside the assembly hall and I could hear a group fluently present their topic. However I tiptoed onward to the back entrance of the hall ready to make a quiet entry. Before I did so I pulled on my dry blazer- which was inside my bag and this helped cover up my heavily drenched clothing. My hair was a bit wet so I put down my belongings and went down into the toilet near the hall and attempted to dry my hair with the hand dryer. I then wiped off what the others had been laughing at earlier when I got off the bus. A moustached had been drawn above my upper lip in felt-tip pen. That's one of the problems of falling asleep on the rugby bus; you don't know how you will awake. My legs were beginning to itch from the damp nylon surrounding them but I stood up straight outside the assembly door, pushed my tie up and was about to open the door.

"Oh hello", it was Zoe the woman who had organised the whole night.

"Hi, ehmmmm, it's hard to explain....." I could tell by the look on her face she was beginning to decipher my story, I was positive she would have noted that it was raining.

"you're here now, that's the important thing. Your group has been moved from first to last, so you can get organised at the break," although she was whispering I could still detect youthfulness in her voice and she had an aura of calmness about her, so I felt forgiven.

"So we haven't even reached half way yet?" I said in amazement.

"we were late in starting, now I have to go," I could feel a certain annoyance from her so I decided to enter the hall.

It was horrible, a situation everyone wants to avoid. The loud screech of the door closely resembled the unmistakable noise of a cat in pain. So of course everyone turned around. It certainly wasn't the entrance I had hoped for. I put on an optimistic smile as the heads turned back to their original positions. As my face turned back to its original colour I grabbed a seat and sat down. My group gave a mocking silent cheer and thumbs up. However, I didn't care, I had made it.

Essay 2

My hands trembled with anticipation, the ruffled paper shaking with every tremor. The curls of my hair were bouncing with every nervous twitch. My chair scraped the floor as it was pushed backwards; the noise reverberated in the anticipated silence. My brain, struggling to comprehend the enormity of the task and what I was about to partake in, was having issues coordinating my body. My arms, swinging clumsily by my side as I continued towards the polished vinyl surface, reflected the eerie blackness of space outside. The floor creaked as each step was taken. The other members of my group followed each of my large footsteps implicitly. I started to clamber up the short, black steps that make us the centrepiece of attention. The prying eyes scrutinizing our every move, the hounds baying for a mistake.

Blinded. The ever present stage lights mimicking the role of the sun. Beads of sweat formed. From tension or heat, I was not sure. The nerves in my cheeks tingled and I knew that, as sure as the Earth is round, that I was the radish colour was moving in and engulfing my cheeks. My brain, chugging along on adrenaline, looking for sheer inspiration. My eyes desperately sweeping the audience for a smiling, familiar face, but finding none. The lines of their last smile etched upon their faces were being replaced with serious grimaces as the board behind us burst into life with vivid colour. The topic energy had taken central stage. The colours illuminating the seemingly engulfing darkness behind stage. The stage lights making the dark drooping bags under my eyes clearly visible. The stage, creaking in protest at our combined mass. The beads of sweat were forming thick and fast now. Bang. It had started.

The sound projected from his mouth like a bullet from a gun. Loud, clear and grabbed all the attention. The buzzword sounded and the hall plunged into darkness, the only light coming from the whites of the audiences' eyes. My chest was rising and falling at an abnormally rapid rate now. This was where it could all go wrong, and we would be the talking point of the night, but for all the wrong reasons. But my fear proved to be unfounded as the tiny spark magnified and the argon filled lights caught the spark and stuttered into life, gleaming as bright as the stars as looks of recognition were expressed amongst the viewers. Their attention was well and truly encaptured now, and the sparkle in their eyes could be missed by none. The previous speaker nodded their

head, signalling it was my turn to share in the limelight. The knot in my throat was expanding and the words were clinging to my lips, like a child with its favourite toy. The words stammered out of my mouth and nerves engulfed me. Determined not to let my group down, I took deep breaths and did what I do best. Smile. The rose coloured tint vanished out of my cheeks as I appealed to the better nature of these viewers, almost teasing them with a magician does with children. The talk progressed as planned, and as I was listening intently to the last minute tweaks my group members had altered their speeches with, I was remembering all the hard work and seemingly endless hours of research we had put into this. It almost seemed justice for the sleepless nights some of us had endured, that we could alter, however small, the world and have our views heard on how we feel the world should develop and continue to advance towards a green future. The talk almost felt natural – a strange concept for a shy boy! The penultimate part of the presentation approached and the twitches and tremors had gone. As with the groups before us, we had settled into our intended rhythm and were playing the audience cleverly and sneakily. My breathing was clam and controlled, the emotion returned to my voice. The genuine interest was plain to see on all faces sitting before us. The looks of realisation on a few faces, a though they had seen the light at the end of the tunnel. The broad grin that was so often instrumental in talks crept onto my face, and the hounds were smiling back. It had gone better than expected. The rapturous applause that each of the other groups with presentations equally as important had broke out as we headed off the stage with our heads held high. The hard, uncomfortable chairs that had been my safe heaven before, now seemed meaningless to me. My heart, pounding along at a steady rate as I watched the eyes follow us up to the back was settled back in its normal place, and not in the uncomfortable vicinity of my throat. The heartfelt and mutual congratulations were shared amongst us, with hugs and handshakes visible for all to see. Then they realised, how much this project had meant to us.

Praise. That night was given nothing but praise the next days. Harsh critics could only feed on scraps of slip ups, nothing spectacular that would get their tongues drooling like the hounds I had once thought they were. Compliments rained down upon our class, but not just by friends and family. By strangers. Personally, that was the clincher for me. That high ranking people in our government with massive amounts of leverage were astounded by what a group of 30 school children had achieved. The pioneering project was sadly, laid to rest by our class. I could imagine how Edward White felt when he became the first American in space, or how Neil Armstrong felt as he imprinted the first human footsteps upon previously untouched soil. We had paved the way for generations after us to explore avenues that we had opened up and touched upon. A fantastic project that had been filled with emotion, laughter and missed deadlines were in past. With no intention of looking back and regretting the project, I was already reared up for the next challenge that someone put my way.

Essay 3

To me, the applause sounded invincible. How was I supposed to excel myself after that astounding performance, streaming with confidence, commitment and such passion. Passion that I felt I did not have. Confidence that was draining rapidly from my body, whilst everyone's appreciative hands were a flutter. My commitment reassured me ever so slightly, yet I was still twiddling my thumbs faster and faster as my hand's tremors began to heighten. The rest of my peers had performed exceptionally well, with the thunder of applause to justify. The audience sat attentively, throughout their speeches. I could see parents passing a gentle elbow-nudge to person sitting next to them, as soon as their child stepped into the spotlight. They were proud. Speechless with pride. I could only hope that my Mother would be as proud as those parents were. If my Mother could match their smiles, the glimmer of pride in their eyes; to me I would have succeeded.

Unfortunately far quicker than I had anticipated, it was our turn. Our turn to stand on the stage, which was towering above me. Everything fell silent, and all I could hear was the shrill pitch of my chair leg scraping along cold, wooden floor as I left my seat-my safety net. It was the only place where I felt protected, where nothing could harm me, that seat made me feel somewhat powerful. My footsteps gaining momentum as I consciously made my way up the middle of the lonely aisle. Each breath becoming, each knot in my stomach tying itself tighter clinging its way around my insides, like a snake, whilst I climbed the black steps to the stage. As I reached the top of the steps, a gentle, calming wave of relief suddenly hit me, I felt almost as if the worst was over, but I took one look out into the audience and I quickly realised that that was far from the case.

Blinded. I was stood in the middle of the stage, the bright lights beaming down on me. This was it. I searched my mum in the crowd, everything was a blur. I just needed to see that smile, the smile which would assure me that things were going to be alright. For me the reality of it all was far too distant. What was I doing here? Can I actually speak in front of all these people? Their staring eyes like hawks, all upon me, I was stunned.

I took one deep, gushing breath as if I were sucking in the whole world down to the depths of my stomach. I felt my face, burning-radiating more heat than the Sun. I could feel my hands steadily pulsating as I fumbled clumsily to find the right card. There were so many thoughts running through my mind, like a conveyor belt on a continuous loop.

After one last final breath, I spoke. As the first word tricked off my tongue the whole room in all its entirety, seemed to me as if it froze. It was just me expressing my own views, hoping to challenge each individual's perceptions. I took several glances around the hall which made me feel so small and insignificant. The vast magnitude of the crowd was simply terrifying. I was overwhelmed. I was anticipating the end of it all. My heart was racing. Each beat thundered through my body like a raging river of electricity, tickling my veins with every meander in its course. It felt as if every single thing was spinning around me and I could just make out the hazy silhouettes of the audience.

By the time I had reached the second paragraph of my monologue it felt almost like a lifetime had passed. As if I had been left behind in a nightmare, except this nightmare was real. Was I ever going to escape this surreal world of anxiety? As I carried on speaking, the huge encumbrance which was once weighting me down seemed to begin to reluctantly lighten. I began to feel more relaxed, my head was clear, no longer were those thoughts of self-doubt draining me sickly pale. Gone were the worries, the apprehension, and the sheer fear which seemed to swirl around me like some sort of daemon trying to convince me that nothing would go the way I had imagined. The wave of closure lifted, my view was unobstructed from the faint visions I once saw before. I felt positive; I had entered into a different world of thinking in which I was welcomed with open arms. The voice I heard was mine; the words I spoke were mine. I was no longer trapped in that bubble of insecurity, overempowering me, forcing me to think negatively.

I felt as if I were free. The words now were fluently flowing off the tip of my tongue, my words! For the first time in my life I felt confident, not afraid of myself, not paranoid about being judged by others.

In hindsight, I feel that the whole experience made me stronger as a person by removing me from my comfort zone, and leaving me to face my challenges on my own. My confidence levels have rocketed. No longer as I the shy, timid worrier I was.

Essay 4

The lights dimmed. I had five minutes before I was going to stumble down the aisle, *fall up the cold, wooden stairs and trip over the projector cable, causing me to end up flat across the stage, and my arm to snap clearly in two. That was the hope- my only way to freedom.*

I was perched on a discomforting plastic chair, awaiting my fate while my classmates were doing the same. I looked around their faces, and what I saw surprised me. Some, the lucky people I would suppose, were slouching, relaxed with a smirk hiding in the corner of their faces. Others were paralleling how I expected I looked: rigid, our ability to move appeared to have evaded us and an incomprehensible look of terror on their faces. In front was a sea of adults, ranging from the tall businessmen, to the unemployed, all set on criticising our every move, blunder and stammer. Time was passing quickly, and the group standing proudly on the stage were forever moving closer to the end of their presentation.

Before I knew it, we were next. The five people either side of me were standing up out of their seats, queuing to move out onto the aisle. I stood up, all the blood inside me rushed to my head, and my breathing quickened. I continued, my head clearly with every second, towards the stage, our group looking like a family of ducks waddling towards a pond for their first swim. The audience's eyes were following us eagerly watched us as they eagerly watched to see what we were going to do. We climbed the stairs that lead to the stage, and we all stood there in the spotlight, like confused rabbits staring into the headlights, unsure exactly what we were doing there. "Get to the other side" an unseen voice hissed from behind me. I carefully crossed the stage to join another from my group, avoiding the cable that had threatened to be my downfall. The stage lightening was not as bright at this side of the stage, so I could see the audience before me, smiling contently at us, attempting to lull us into a false sense of security. I swept the hall fleeting with my eyes, trying to judge my audience- were they really capable of contemplating change? Whilst considering this, a sharp voice cut through my thoughts, our presentation had begun.

I stood, knock-kneed, at the sidelines of the stage while the others were talking- I was not needed yet. My group and I had been working ferociously to research possible renewable energy sources, decide the best way forward for our society, and it all came down to this. I watched as each of them in turn put their ideas across, describing each possibility in detail, and watched the spectators nod in agreement, or shake their heads in despair. They were turning and beginning to see things from our point of view. I sighed with relief- my job was going to be a lot easier if they concurred with our proposals. I stood helplessly at the side of the stage, still no needed yet.

Earlier that day, during our last rehearsal, my piece of the presentation had gone well- apart from the fact that nobody had any idea what I was talking about. I had conquered the first hurdle, to stand in front of a sea of people and speak, but it was another thing to speak about something to which they are clueless about. What would I do when the wave of bafflement hit them, and blank looks washed over every one of them? I could picture their nodding heads, fixed with faces of confusion. Suddenly, with no more preparation, the light shifted to my startled face.

I inhaled a gallon of air into my lungs, glanced quickly at my notes, and projected my voice so even my grandma would have no problem hearing. As my speech moved on, I realised something- I was enjoying myself immensely. This was the one time in my life when I was being heard and not just merely tolerated. The people of the crowd were listening to me, and appreciated my opinion, and that meant a lot to me. We concluded our presentation, and the hall erupted with elation and happiness. Our group all glanced at each other, and a smile spread across each of our individual faces. That said it all.

In the car on the way home, my grandma turned around in the passenger seat, and told me "You were really very good you know- you should be proud of yourself". I felt it would be churlish to disagree. The memory of people's hands beating together in appreciation for our work had already told me that. I felt stronger from the inside, less scared to put across my opinion, no matter how obscure it may be. I vowed from now on, I would let the world know my feelings, and not hide them away so deep that not even a miner could find them. I have changed, and I believe for the better, not for the worse.

Essay 5

Glossophobia, that's what they call it. It gripped me tighter and tighter, my fight or flight reflexes were pumped into overdrive begging me to distance myself from the impending doom. Stop it! Stop it, come on. You can do this. You can do this. You can do this. The mantra circled round and round in my mind, over and over again until it became almost meaningless. My feet danced nervously on the hall floor, my stomach tightening even further with every ominous tick of the clock. It was getting even closer and the terror was binding. The sudden explosion of clapping signalled what I had been dreading the most. I sat paralyzed. My feet still.

I was vaguely aware that Philip and Robbie had stood up beside me. Still waiting Robbie gave me a nudge. The deafening screech of the chair legs being forced backwards on the floor dragged me from my blank state. My desire to run reached an all time high as I skittishly made my way to the front of the hall, vultures prying eyes watching my every move, praying for a mistake. Don't trip, don't trip for God's sake don't trip! My trembling feet ascended the black stairs after Philip and Robbie, both unbelievably confident next to my panicking, receding self.

We were there. I blinked several times letting my eyes adjust to the brightness of the stage lights, like several hot suns bearing down on us. Even with the rest of my group standing beside me I felt alone. Stranded. The overwhelming desire to run enveloped me again. It was too late now though. The overhead projector clicked on and Robbie began to speak.

My feet were tapping again, dancing almost. Indicating again how much I wanted to be anywhere but there. I tried to regulate my breathing which had become fast and shallow. My body emanated heat, my face scarlet. I quickly scanned the crowd, catching the eyes of my friends who were waiving at me wildly. I smiled tentatively back at them. I lowered my gaze down to my notes which were spinning round and round in my sweaty shaking hands. How could it have been only a few hours since I was here last, laughing and joking with my friends as I watched them practice? It was an entirely different place now., gone were the resonating laughs and normal lights. Now it was darker, uncomfortably warm and had several piercing lights that were directed at us.

Philip was speaking now. My feet danced faster on the floor. It was nearly my turn. I forced my feet to still and as a result the cards span even faster in my hands.

Philip stopped speaking. All eyes were on me. I glued my eyes to the note cards, my lifeline if anything should go wrong. I began speaking, my tongue felt heavy and my mouth was dry. I swallowed again and again in an effort to get some moisture back into my mouth. Words tripped clumsily from my mouth, my cheeks did the impossible and deepened further. A vague recollection of being told to look at my audience popped violently into my head, throwing me off. I quickly raised my gaze, glancing over the top of my glasses. The outline of what seemed like a hundred expectant blurry faces stared back at me. Hastily lowering my gaze I continued my speech. Looking up was not a good idea. I kept going, praying that the end would come soon. There it was. My last card, I was almost done! My spirits began to rise as I neared the bottom of the card. The first genuine smile of the evening began to creep onto my face.

Finally the last words left my mouth. It was over, finally. I made a dash for the stairs, desperate not to be the centre of attention any more. I kept my head down, eyes fixed on the floor, avoiding the stares from members of the audience. I reached my seat not a moment too soon. My friends in the row in front turned to give me high fives. I did it, I'd actually done it and I always could have done. That's the thing with phobias, they're completely irrational but to the person that has them, they are something very real and very scary. Relief spread through me chasing away the fear and panic. Only as I began to relax did I realise how tense I had been. It had been without doubt the most stressful, terrifying experience of my life and yet I had done it. It was over. Even though I had managed something that at the beginning of the evening I had thought to be impossible, I knew that would not be the last time I would feel like this. However, it would hopefully make it somewhat easier to deal with.

Appendix 6.2 (7) University facilitators' feedback on their focus group discussion at the launch of pilot project one, expressed via feedback sheet

University facilitators' feedback on pupil engagement during the focus group discussions at the launch of pilot project one, expressed via feedback sheet

Facilitator	Group	Facilitators' reflection
Katie	Media, entertainment and education	<i>They appeared enthusiastic AND somewhat confused about where to start .and what to start with</i>
Cheryl	Green Building	<i>They knew very little and initially assumed it was all about renewable energy. Took a while to expand into difference between house and a home; areas of feeling good (space, colour, light) meaning better for work/ study/play hence better society; materials (natural, recycled etc), greenspace and use of gardens for food, active play, relaxing etc: relationships between buildings, creating community etc.</i>
Mona	Energy	<i>They were keen to hear and discuss the topics and issues within. When they asked "what are you doing on Tuesday?" and "what do you expect to get out of this" the students were unable to answer.</i>
Sam	Wealth/ Consumption	<i>I sensed a spirit of interest for something new and "out-of-the-classroom" approach. Once discussion was underway and personal involvement with topic was established they seemed enthusiastic.</i>
Jack	Food	<i>Yes, they knew what they were doing and were enthusiastic to give their point of view. They weren't shy to talk about any new ideas.</i>
Rachel	Justice	<i>The three students in my group were enthusiastic about the project and willing to express their opinions on this. They enjoyed their chance to express their views. They say it as a good opportunity to experience something outside normal lessons.</i>
Richard	Health	<i>All students appeared extremely engaged by the topic and the task of discussing how "health" could evolve in an ideal future/ society. Dynamics within the group worked well and everyone contributed new and interesting ideas- it was especially good to see the students discussing how different about their ideas. Overall, I was very impressed by their ideas and their enthusiasm for constructing their topic mind map. They also seemed enthusiastic about pursuing further research around topics of their choice. The students were clearly well-versed in the task they were to undertake. Any preparatory work that had been done in school must have given them a solid foundation in the ideas we were to discuss in the focus group session.</i>

University facilitators' feedback on the content of discussion during the focus group discussions at the launch of pilot project 1, expressed via feedback sheet.

Facilitator	Group	How many in your group wanted to start with the ideal future/the problem/not bothered?	Was the talk mostly negative or positive about society?
Katie	Media, Entertainment and Education	<i>They were not sure what to start with; I had to encourage them quite a bit with some more specific questions and ideas/topics, and then they would discuss</i>	<i>Mostly negative</i>
Cheryl	Green Building	<i>No mention of future but a general sense of how things should be</i>	<i>Neither- a sense that society is as it is but beginning of reflection that it could change</i>
Mona	Energy	<i>Our group talked firstly about the present energy (electricity) mix, expressing a preference for a renewable based future. They felt a bit lost at the beginning but after quick intro and establishing connection to the individuals, they <u>began</u> to think/ question their "lifestyle choices"</i>	<i>The direct relationship between society and energy was not discussed in much detail. Two instances were society and/ energy were linked. 1. The students discussed the conflict between societal support renewable and objections to wind farms. 2. The group discussed how Scotland would fair if oil ran out tomorrow, coping with</i>

			<i>change, change of jobs and energy sources.</i>
Sam	Wealth and Consumption		<i>Neither. Focus was more on the "me" rather than "them".</i>
Jack	Food	<i>Wanted to start off with the ideal solution really</i>	<i>Did view everything negatively but gave solutions to make it positive.</i>
Rachel	Justice	<i>The students in my group were more focused on the problems and good things with the justice system at the moment but found it quite difficult to suggest alternatives as they found that every argument had a counter</i>	<i>Definitely a mixture but quite positive about the justice system in general.</i>
Richard	Health	<i>At the beginning of the discussion session, I outlined the topic we were to think about- i.e health. After prompting some initial thinking, the students engaged freely in discussions and were enthusiastic to show connections and relationships between different ideas and concepts</i>	<i>In general, the perspective seemed to be neutral. The group talked about the differences between healthcare system using antibiotics and the "treatment" approach, versus a different perspective on health and wellness stemming from nutrition, exercise and emotional/psychological well-being- i.e a "preventative" approach. The students did not seem to be disappointed or unhappy with any of their thoughts about our existing society, but there did appear to be considerable understanding and, indeed, enthusiasm for discussing the role of diet, exercise and mental health in producing healthy individuals.</i>

University facilitators' feedback on the nature of discussion during the focus group discussions at the launch of pilot project one

Facilitator	Group	<i>Did the pupils tend to focus on the personal/local/national or global scale? Social/environmental or economic problems?</i>
Katie	Media/ Entertainment/ Education	<i>Very personal, very familial and discussions about friends and family</i>
Cherly	Green Building	<i>Personal, had to work up to local, did not really get into global. Not really relevant to our discussion</i>
Mona	Energy	<i>In general, energy was discussed on a national, i.e Scottish scale. Problems were mostly, in not all related to the environment. The only mention of economic factors was on renewable (off shore...others might supply "free" energy to communities)</i>
Sam	Wealth and Consumption	<i>-very self-centred characters -main focus on economic -hardly any environmental</i>
Jack	Food	<i>Understanding much more local and national.</i>
Rachel	Justice	<i>Mainly personal opinions vs national systems rather than anything on a global scale, although they did mention that the justice system is relevant to international relations.</i>
Richard	Health	<i>This is difficult to answer for the topic of "health". We did discuss the role of healthcare within a society (i.e on the national scale), but also thought more closely about how the health of an individual is determined. There was a good cross-over of ideas between how we can learn from experiences of treating/ helping individuals to how we could provide healthcare to larger groups of people. We did not discuss different approaches to healthcare around the world.</i>

University facilitators' feedback on the importance of their role during the focus group discussions at the launch of pilot project one

Facilitator	Group	<i>Did you feel you helped the group or would they have been OK to start without you?</i>
Katie	Media/ Entertainment/ Education	<i>I think they needed encouragements, but I felt like I had to ask them quite a few questions to get them started</i>
Cheryl	Green Building	<i>They would have struggled without some input- I had to work quite hard and did more prompting than I expected- I think they need time as a group to take it on now</i>
Mona	Energy	<i>At times I feel I prompted them a lot. They might have covered a lot of the issues themselves with personal research. The group were unsure as to why they were doing this task; if they had a clearer idea of the expected outcomes (e.g a presentation or talk?) they may have tailored their thoughts to that.</i>
Sam	Wealth and Consumption	<i>Help was definitely necessary, pushing people into the right discussion and direction Problem of complexity of topic and definition of terms.</i>
Jack	Food	<i>I felt I helped them get started.</i>
Rachel	Justice	<i>I feel that without me there they would not have been so motivated and would have definitely drifted off topic.</i>
Richard	Health	<i>I think my main role was to guide the students on their discussion and to help them link their ideas together. I did not have to "give" them ideas and was impressed by their level of input. I think it was important for me to be there at the start in order to provide an overview of what we would be doing and to initiate the thinking process. However, once started the students seemed to develop and expand on their ideas very well.</i>

University facilitators' feedback on their learning during the focus group discussions at the launch of pilot project one

Facilitator	Group	<i>Reflections on what, if anything, facilitators gained from the experience</i>
Katie	Media/Entertainment/Education	<i>I think I learned that this age group is very me centred and centred among social groups and friends and not thinking too much about their own habits of consumption and spending..I did enjoy the discussion but felt I needed to do more than my fair share of asking the questions I wasn't prepared to ask...I don't know if it would have been too different with Uni students, perhaps...maybe slightly older groups care more?</i>
Cheryl	Green Building	<i>They are more buzzy, more obsessed with social life and peer pressure, very quick and important how you engage with them. I enjoyed it.</i>
Mona	Energy	<i>I was pleasantly surprised by the school students' broad knowledge on renewable energy sources and technologies. The discussion was productive and the research in the I.T lab was delegated into three topics (prompted by myself) the students decided which aspect of the discussion they would investigate further, in their pairs of two. Personally I enjoyed the discussion but I felt as if I was a bit of a poor facilitator at times. This was due to the moments where conversation dried up and there was no natural directions I could prompt for more discussion. Despite the moments of "what to say next" the students still managed to develop a mind map and research plan</i>
Sam	Wealth/ Consumption	<i>I live in a SD bubble. I enjoyed the discussion as it opened my eyes to what people in the "real world" think</i>
Jack	Food	<i>I really enjoyed the discussion. I learnt that there was more of a need to talk about food in school: that school was lacking in many areas to fulfil their education. I learnt how they don't learn appropriate stuff in home-economics and that they were wanting to learn more about how to eat healthy and why you should eat certain foods. They said that more people should grow their own foods, that there should be more of a government movement banning unhealthy advertising and more role models. They didn't think we should sell food in other countries that we have subsidised. If it was run by someone who knew the subject well...it could be really good.</i>
Rachel	Justice	<i>I really enjoyed the discussion and learned a lot about how much/ little teenagers think about the justice system. They were willing to talk to me and frequently asked my opinion- however, there was one individual that dominated which can often happen.</i>
Richard	Health	<i>Illegible</i>

Appendix 6.2 (8) Guardian/Parents' feedback form disseminated after the completion of pilot project one

You may have been aware that the pilot project aimed to encourage:

- Thinking about the consequences of our actions and the interdependence between the social, environmental and economic spheres and the individual, local and global levels (system thinking)
- Thinking about our collective future and what a wiser future would look like instead of just making the situation less bad (future thinking)
- Engagement and empowerment to participate in the development of a "wiser" society as defined by the student (action competency)
- Discussion and consideration of the values that guide our behaviour and which values should be reinforced for the development of a "wiser" society as defined by the student (an emphasis on values and priorities)

1. Do you think there is a need for encouraging the above "thinking" in schools?

Please circle appropriate answer: Yes

Additional comments:

A grand exercise in research, formulation and presentation skills. Content and views expressed. However, understandably and generally somewhat naïve

2. Did your child talk to you about, or did you have any debates arising from, the pilot project either before or after the "evening of visions for our future"?

Please circle appropriate answer: Yes

Additional comments:

Around the table discussion provoked before and after involving all family members

3. What were your expectations for the "evening of visions for our future"?

Likely to be idealistic and politically impeded in realisation of "ideals"

4. Please tick were appropriate

Did the "evening of visions for our future" meet your expectations? Yes

It was thought provoking *Agree*

It was of no interest *Disagree*

Additional comments

All pupils deserve credit for their courage involved in presentations from the stage to the assembled audience

Please use this space for any additional comments

"sustainable" previous generations have managed to get us here with the understanding of nature's balances

"wiser" previous generations are best reference and more acceptance of religious and moral precedents should be encouraged in research and formulation of viewpoints

"democratic" more liberal politically Government by the people may nor mean wise populist may nor equate with sustainable. Care must be taken with regard to schools delving into such areas where religious and political sensitivities abound. Not all principles promoted in project match the morals and guidance and principles of a sustainable future encouraged and envisaged by parents.

Appendix .6.3 (1) Abstracts written by me after discussion with Simon to structure teacher's and my reflection during pilot project two

Linwood No More: A Programme to Redefine the Nature of Society and Teenagers' Roles as Change Agents with Solutions in a Chaotic World

The research is concerned with developing and evaluating a visionary, sustainable, transformative and comprehensive strategy for "education for sustainability" suitable for the school curriculum. Through linking academia, policy and practice, it aims to generate debate as a detailed and evolving case study of education for sustainability. A successful 8-week pilot project, "Designing Futures", led to developing the model at Linwood High School to run for the academic year. The aim of the proposed presentation is to share and generate discussion on the approach to "appropriate" education for the 21st century, including the place of interdisciplinarity in the school curriculum. The presentation will address the search for, and controversy over, suitable research questions for academic research. Fundamental pillars of the programme will then be discussed as a case study of transdisciplinarity in the school curriculum. The framework of the programme will be outlined, opportunities and challenges highlighted from different perspectives, including teacher and pupils. A sample of the pupils' work to date will be showcased. The research challenges and transcends many boundaries, the distinction between results and methods and the power of the researcher; school subjects; primary, secondary and tertiary levels of education; to the philosophical questions on the nature of knowledge and role of schools. Feedback will be sought on, and collaboration for, the development of the proposed model.

Linwood no more: Exploring appropriate knowledge: a story of co-designing and evaluating a participatory strategy for citizenship.

Issue Addressed: The evaluation of an initial pilot project running for 8 weeks is discussed in terms of the framework developed and the learning experience of the pupils.

The story of developing the initial model to span the academic year in a school with a different socio-economic location is then addressed. Both the opportunities and challenges of the pilot project from a teacher's perspective and the pupils' will be discussed. The aim of this paper is to share the experience with practitioners in order for potential collaboration and for others to build on and develop the proposed model.

Methods of Approach: The emerging field and appreciation of 'action research' has helped situate this project in academia. Action research requires a constantly evolving methodology: it is participatory; interdisciplinary, draws on grounded theory and responds to a real world problem. The methodology could also diverge from 'traditional academia' regarding the relationship between results and methods and the role of 'researcher'. The concern to triangulate data gathering techniques and draw together the perspectives of the young persons, teacher and researcher is addressed. Opportunities and challenges regarding the evaluation and meeting the criteria for 'good research' are outlined.

Results: A preliminary literature review indicates a lack of evaluated and comprehensive, participative and pupil lead strategies for citizenship education underpinned by similar philosophical underpinnings as the strategy being developed. Feedback from the first pilot project indicates that this model has great potential as a strategy for education for sustainability and a model to advance discussion on the controversial concept of citizenship education. However, constraints indicate that the model challenges both the secondary and tertiary education systems.

Conclusion: The research indicates that the model has great potential for developing citizenship education in the 21st century but raises questions over whether true reform towards sustainable development may be restricted by a failure to examine the foundations and assumptions of the Scottish educational system.

Appendix 6.3 (2) Ideas and suggestions arising from pilot project one to develop in a potential second pilot project

Extract from e-mail sent to Simon, who expressed interest in running a second pilot project, detailing ideas for collaboration

- If several schools are taking part ensure that teachers and students can network with each other to share ideas
- Get pupils involved from different backgrounds and organise a "conference" at St Andrews similar to the final presentation at Auchencarn Academy but more with more interaction between students from different schools and University students.
- Organise a publication of students' "utopias"/ "constitutions"/ "ideas for a better future".

Extract from e-mail sent to Simon, who expressed interest in running a second pilot project, detailing ideas emerging from pilot project one but not developed

Ideas discussed during pilot project 1 and not acted upon:

A filmed class debate about an ideal future, which would link the topics together and then present this group vision at the "evening of visions".

Inviting SD undergraduates, and potentially other schools, onto a Wiki and uploading presentations for a select group of people to provide feedback.

Suggested watching The Freedom writers' diaries to engage pupils in reflection and 5-10 mins at the end of the class for pupils to update a reflective journal.

Link up with St Andrews radio station asking the pupils to do a programme on their visions and what they thought of education for sustainability (might provide a good opportunity for structure)

The University hosted an exhibition about sustainable design, suggested creating postcards conveying pupils' understanding of sustainable development

Involve the Art department: we originally planned to exhibit life maps at the final presentation.

Encourage primary research by pupils

A discussion on education: what pupils think about education for sustainability/education for the 21st century (There were a couple of pupils that really struggled with the idea of student led learning)

A collection of letters from "utopias/ dystopias" as part of an international call for writing. The pupils could be central to developing, i.e. ensuring that the website is appropriate and interesting for their age group.

Develop a resource other teachers could use: An online resource? A short film?

Appendix 6.3 (3) Overview of how the pilot project links to the CfE and the UNDESD

The Curriculum for Excellence and the UN Decade for Education for Sustainability

"The overall goal of the Decade of Education for Sustainable Development is to integrate the principles, values, and practices of sustainable development into all aspects of education and learning. This educational effort will encourage changes in behaviour that will create a more sustainable future in terms of environmental integrity, economic viability, and a just society for present and future generations"

"Curriculum for Excellence aims to achieve a transformation in education in Scotland... The curriculum aims to ensure that all children and young people in Scotland develop the knowledge, skills and attributes they will need if they are to flourish in life, learning and work, now and in the future".

The aims and objectives of the pilot projects overlap with the values and capacities outlined in the Curriculum for Excellence. Scotland's Action Plan for the Second Half of the UN Decade of Education for Sustainable Development emphasised the importance of:

"looking for new and innovative approaches to ESD2". The pilot project is based on a philosophy which contextualises the four capacities in the spirit of the UN Decade for Education for Sustainability. Central to the pilot project is that it has potential to contextualise knowledge from other subjects.

Successful learners

With

- enthusiasm and motivation for learning,
- determination to reach high standards of achievement,
- openness to new thinking and ideas

and able to

- use literacy, communication and numeracy skills;
- use technology for learning;
- think creatively and independently;
- learn independently and as part of a group;
- make reasoned evaluations;
- link and apply different kinds of learning to new situations.

Successful learners and the pilot project

Enjoyment and a sense of purpose are key to the pilot project. The philosophy behind the pilot project is relevant to all abilities and ages with potential to encourage lifelong learning. An important aim of the pilot project is to create "a dynamic, visionary, creative, inspiring, pro-active and empowering (classroom) environment", enthusiasm and motivation are central to realise this aim. Appreciating the benefits of an open mind for learning and becoming comfortable with questioning previously held assumptions are essential to the pilot project. Creativity and developing new ideas is given priority in the pilot project. The pilot project has potential to develop a wide range of skills, including: research skills; listening skills; organisational skills; team skills; and debating skills. The focus on "reasoned evaluations" used to construct arguments will introduce pupils to consider the reliability of sources and their priorities to validate opinions. There are many opportunities to use technology whilst running the pilot project, for example through using the internet as a search engine, using PowerPoint for presentations, creating YouTube videos as part of "building the product". There will be many opportunities for independent thinking, the completion of a reflective journal is one example. Group work, or team collaboration, will take the form of small groups and class discussions. The emphasis on student led learning and the class presentation draws on a range of skills. The ability to apply different kinds of learning to new situations is endorsed in the aims of the proposal: "Make education relevant by bridging the gaps between theory and practice; between subjects; and between the "real world" and school". Time is allocated to ensure that students experience personal agency and have the opportunity to participate in issues outside the school walls.

Confident individuals

With

- self respect,
- a sense of physical, mental and emotional wellbeing;
- secure values and beliefs;
- ambition.

And an ability to:

- relate to others and manage themselves;
- pursue a healthy and active lifestyle;
- be self aware;
- develop and communicate their own beliefs and view the world;
- live as independently as they can;
- assess risk and take informed decisions;
- achieve success in different areas of activity.

Confident individuals and the pilot project

The overall aim of the pilot project is to support the development of confidence in participating in the transition to sustainable development. Such a mindset requires confidence at various overlapping levels: confidence within oneself through finding meaning and a sense of purpose and confidence in relation to the appropriate skills for the present/future/sustainable

development. The focus on personal development, or personal awareness, through discussing pupils' worldviews, their role in society and ideals provides many opportunities to consider issues of self-respect and opportunities to enhance self-respect. The reflective journal is often considered a useful tool in fostering self-awareness, important for self-respect. All knowledge brought to the classroom, not only "academic" knowledge, will provide opportunities for students to "be experts" regardless of academic achievements. Throughout the pilot project pupils should increase confidence in making a personal contribution and in dealing satisfactorily with questions and counter arguments. This includes developing an ability not to become personal when issues are sensitive. The meaning of physical, mental and emotional wellbeing is an important issue in considering how a society is to be designed. Addressing values and beliefs is central to the aims of the proposed strategy to: "Encourage a consideration of the consequences of decisions and form opinions of right livelihood in considering the need for sustainable development" and "Create an opportunity to reflect on values and critically evaluate which values must change and which must be encouraged" Ambition must be qualified to be considered a desirable attribute, this will be open to discussion when running the pilot project.

Responsible citizens

With:

- Respect for others
- Commitment to participate responsibly in political, economic, social and cultural life

And able to:

- Develop knowledge and understanding of the world and Scotland's place in it
- Understand different beliefs and cultures
- Make informed choices and decisions
- Evaluate environmental, scientific and technological issues,
- Develop informed, ethical views of complex issues.

Responsible citizens and the pilot project

The pilot project aims to provoke thought about what responsible citizenship entails.

Ensuring that the channels for public participation and the rights of the child to be heard on issues that affect them are fulfilled is essential to the pilot project. The pilot project is based on a belief that to encourage a "commitment to participate responsibly in political, economic, social and cultural life" requires practice. Time is therefore allocated for pupils to experience participation and build the tools to do so. The need to foster respect for others is also central to the pilot project. The focus on dialogue necessitates an understanding and appreciation of the need to value/respect the views of others. Additionally, the potential to expand one's circle of compassion through learning about different situations and investigating connections (the conditions that lead to the situation and the opportunities to change it) is an important part of developing respect for others.

Developing an understanding of the world and appreciating the interrelation between:

- the economic, social and environmental spheres
- the individual, local, national and international

.

Effective contributors

With:

- An enterprising attitude
- Resilience
- Self-reliance

And able to:

- Communicate in different ways and in different settings
- Work in partnership and teams
- Take the initiative and the lead
- Apply critical thinking in new contexts
- Create and develop
- Solve problems

Effective contributors and the pilot project

The emphasis on student led learning presents opportunities to foster an enterprising attitude, resilience and self-reliance. Such attributes are qualified by the aspiration to engage students with the development of a better society and ownership of the future through increasing agency to align values with actions and confidence in applying knowledge to real life. Teamwork and communication with a variety of persons, i.e. peers, the class and persons outwith the school setting, have been established as key to the pilot project. The pilot project opens up opportunities to use different methods of communication and share interest on a particular topic both formally and informally, for example by writing to a newspaper, making a campaign poster or writing to their MSP. The pilot project allocates time to experiencing personal agency and benefit the wider community: to practise becoming an "effective contributor". Creativity and critical thinking to solve problems are all required to design an ideal future, examine and critique the *status quo* and become a change agent/ effective contributor.

Assessment

The approach to assessment endorsed in *Building the Curriculum 5: A Framework for Assessment: Key Ideas and Priorities* stresses that assessment must be an integral part of learning and not, in any way, detrimental to the learning process. The approach to assessment proposed in the pilot project links to the guidance from the CfE: primarily, the emphasis on pupils' involvement in setting their own assessment and on pupils' participation in evaluating their own achievement.

Appendix 6.3 (4) Outline of sessions, written by me after discussion with Simon, to guide pilot project two

Session	1. Reflective Writing
Rationale	<p>Reflective writing has great potential to improve, and share, the learning experience. Reflection is key to transformative learning. "We reflect in order to:</p> <ul style="list-style-type: none"> • Consider the process of our own learning - a process of meta cognition • Critically review something - our own behaviour, that of others • Build theory from observations • Engage in personal development • Make decisions and resolve uncertainty • Empower or emancipate ourselves as individuals or to empower/emancipate ourselves within the context of our social group" <p>Reflective writing will constitute important data which will inform the delivery of the course.</p>
Intended Learning Objectives	At the end of this session the pupils should have an understanding of the objectives and characteristics of reflective writing and begin to understand how to deepen reflective writing.
Plan	Class on reflection. Watching film before summer holidays. Using the resources from Pete Watton <i>et al</i> (2001) might be fantastic (Scan and send)
Notes from Auchencairn	We did not hold a class on reflective writing at Auchencairn but the teacher thought it would have been a valuable exercise as pupils were unaccustomed to reflective writing.
Data Collection	Pupils will be asked to keep reflective journals throughout the pilot project. They will be expected to write a short paragraph on: What they/we did? Was it a valuable/interesting thing to do? Why? Specific questions will be proposed for some sessions
Session	2 Introduction
Rationale	
Intended Learning Objectives	By the end of this session pupils will be introduced to key principles guiding the "course"; they will understand a potential form the course will take over the next 10 weeks but also be aware that the course is flexible and open to student improvement. The pupils will also be introduced to my PhD research questions and the nature of their involvement in my research. The pupils will discuss their own aims and objectives and record them in their reflective journal.
Plan	I have written a rough outline of key messages
Notes from Auchencairn	
Data Collection	Reflective Journals
Session	3. School as a microcosm of society. (The Educational System)
Rationale	Pupils will be introduced to the philosophy of the course through reference to their immediate environment as a microcosm of society.
Intended Learning Objectives	By the end of this session pupils struggling to grasp the concept of "exploring the nature of personal and community involvement in society as an agent of change" will have a clearer idea of what is expected of them throughout the course. Pupils will have: an increased understanding of the potentially different approach to teaching and learning, including the importance of valuing pupils' knowledge; a grounding for more independent research and an opportunity to engage with some research methods, such as interviews. The session intends to aid pupils to rethink their approach to their own learning process via a consideration of what works and what doesn't at school.
Plan	<p>The research groups will be discussed and decided upon by the pupils. Suggestions for areas to examine include: power relations, engagement and governance, the food system, what is important, how people see the school.</p> <p>Potential support/expectations and incentives: inspiring talk about why it is important..Education Minister...perhaps discussion of research project with University students?</p> <p>The pupils will be asked to produce a short report/ broadcast on the difference and similarities between their ideal education system and the current system.</p>
Notes from Auchencairn	We did not run this session at Auchencairn. The teacher and I thought this would have helped students understand the project and engage with the intended learning objectives

Data Collection	Documentation of what happens in the class; discussion with teacher on the class's response. The report/ podcast will give an important indication of the pupils' worldviews.
Session	4. Utopianism (and ingredients for society)
Rationale	The potential relevance of Utopianism to education for sustainability can be understood in terms of helping pupils "think outside the box, not reduce reality to what has become real", engage with another society in working order, and value an articulation of, and become excited about, a "better" society". An understanding of Utopianism can engage the pupils in creative critical reflection.
Intended Learning Objectives	By the end of this session pupils will have engaged with Utopianism as an important concept for education and the centrality of the focus on their ideas for a better society, which underpins the pilot project.
Plan	The class on Utopianism could be delivered in a similar way to the Masters. A Masters class was held by [REDACTED], from Glasgow, who potentially could be involved in running this session. An introduction to his interest in Utopianism was discussed before involving students in visioning exercises, i.e imagining the tastes, jobs, leisure pursuits, family structures, food systems in one's utopia. Pupils could either be offered time to, or the potential to participate in a "call for letters" describing a utopic/dystopic society. Great opportunity for Artwork (arrange exhibition/link with a variety of schools??)
Notes from Auchencairn	
Data Collection	The completion of a letter would provide an indication of the pupils' worldview for my research but could also be reflected on by the pupils as a baseline for transformative learning. This may take the form of an unstructured interview on how they see themselves as change agents/would like to be seen as change agents and whether this has shifted over the course of the pilot project. Towards the end of the session we will reflect on whether the session on utopianism helped them in understanding the intended learning experience. The framework for analysing letters linking this to my research question is currently being developed.
Session	5. Start Research: mind maps and preparation for St Andrews
Rationale	Preparation for St Andrews
Intended Learning Objectives	At the end of this session pupils should be in "expert groups". They should have mind maps and research plans, having delegated work amongst the groups.
Plan	Pupils will discuss appropriate starting topics. The work on utopianism should inform their thinking on how to split society up into manageable topics: the "ingredients of society". Guidelines for mind maps could provide support for pupils' research and the mind maps could be discussed with students at St Andrews. Potential guidelines could ask pupils to think about areas that inspire them, issues that they relate to and would like to research, areas that they see potential for being involved in, issues that are controversial and would be good points for discussion, areas that they think are central for making the/their world "a better place", etc... Pupils should consider the mind maps as the initial stages of developing a research plan and remember that they will be eventually asked to give presentations conveying their opinions to their class and beyond.
Notes from Auchencairn	Auchencairn students commenced the pilot project at St Andrews and did mind maps, feedback on the experience was very positive
Data Collection	Reflective journal, Analysis of mind maps
Session	6. Visit to St Andrews
Rationale	To consolidate in the pupils' minds that this course is about learning that goes beyond the school walls and the sharing of views with a diverse audience. The visit will provide an opportunity for discussion between pupils and older students and possibly establish mentor connections.
Intended Learning Objectives	Pupils will build confidence in discussing their research plans with university students. Pupils should leave the university having discussed progress to date with university students regarding their thoughts on the pilot project and their research topics.
Plan	There are so many options for this day, a list of potential "sessions/ workshops" at the university are as follows: <ul style="list-style-type: none"> • Presentation/ discussion of session 2: Torr High

	<ul style="list-style-type: none"> • Showing mind maps and research plan. • Focus group: on evaluation to date and engagement in the future • Research using university computers and mentors. • Listen to some Master sessions (something that they found inspiring, their utopian letters/understanding of EfS?)
Notes from Auchencairn	
Data Collection	Reflective Journals. I hope to involve Master students in the evaluation, ideally to produce a short report on the pupils' enthusiasm, interest, understanding of the pilot project and also comment on how they felt they could help the pupils and what they gained from collaboration regarding their understanding of "Education for Sustainability"
Session	7. Class presentation and discussion (this is the core session so is expected to run over several weeks)
Rationale	These sessions form the body of the pilot project focused on investigating our current society, forming a vision and engagement with the development of a "better" society.
Intended Learning Objectives	Pupils will participate in developing many skills: group work, research methods, structuring and delivering presentations, engagement with personal and fundamental issues for society defining and challenging their role in society as an agent of change etc.
Plan	Pupils will work to present on something that they've researched, care about and want to teach and discuss with others. This can take many forms and all valuable knowledge doesn't come from internet sources. They can investigate trying to change behaviour, do something that would be done "to make the world a better place" and report on their experience. Pupils will be asked to prepare a presentation that could be followed by a discussion. In order to stimulate class discussion it is expected that a theme from the presenting group will be discussed as a class. Pupils could be encouraged to think about social norms and how they see themselves in relation to social norms. The other groups will explain how their topic links to the presenting group. Pupils could be asked to provide feedback to their classmates through writing a couple of sentences on whether they found the presenting interesting, relevant and whether they agreed with the message.
Notes from Auchencairn	We could follow the structure that was developed at Auchencairn Academy OR make more room for debate, time for "action" and changing groups.
Data Collection	Presentations will be recorded and analysed. Feedback forms. Adjusting Peer Assessment. Document pupils' thoughts on incentives and mechanisms for change. (Perceived) success in meeting learning objectives will be noted.
Session	8. Who must we meet?
Rationale	The session will encourage pupils to reflect on key people they would like to meet/ work with and can be considered "action" as pupils discuss their ideas outside school. This has potential: for pupils to feel as if their views are being listened to outside the class, for pupils to engage in dialogue with someone from a different background and gain a different perspective on an issue, and to generate inspiration for avenues for their "future research". It will help with confidence and structure.
Intended Learning Objectives	The pupils will practice articulating and debating their views with a range of persons.
Plan	Pupils will be asked to think about who they wish to meet and send an invitation. Pupils will be asked to prepare/think about their message for the visitor and consider what could be gained for themselves, their community and the visitor from the visit. Suggestions for people that may be invited include MSP's visit//Policeman's visit//another "influential" person in society/community member.
Notes from Auchencairn	
Data Collection	Reflective journals. Documentation of who was invited, why and what happened. Feedback forms.
Session	9. Visit to Primary School
Rationale	

Intended Learning Objectives	Confidence, requires critical reflection, organisation, communication skills, originality, creativity, etc.
Plan	(this is open to class discussion) At this point the pupils should feel confident that they can interest the primary pupils in what they have been doing over the weeks. The pupils should discuss the best way to get the primary pupils engaged: a performance? Focus groups imagining what they would want when they are 14/15?
Notes from Auchencairn	
Data Collection	Questions for primary school kids via teacher. Reflective journals. Feedback forms.
Session	10. Filming the debate
Rationale	To generate debate and potentially act as an impetus for pupils' future research via contextualising ideas in the design of the "wider society". Maria and I were both keen to film the debate, which would produce a resource that other teachers could use. Film could also be used as a tool for aiding reflection.
Intended Learning Objectives	The pupils would be expected to engage with debating skills. Pupils will be able to evaluate ideas from a wide range of perspectives.
Plan	Discussion on what form the debate should take. Form a team in charge of editing the "film". Perhaps some University students who were involved at the start could come to the school and act as facilitators. Whether pupils would enjoy being filmed or whether they would initially like to identify key areas for structure could be decided nearer the time. Role play may be helpful in initiating the discussion.
Notes from Auchencairn	Maria and I wanted to run a debate but we ran out of time
Data Collection	Perhaps feedback form (helped see connections? Added meaning to different topics? Informed thinking on topics/ helpful for the main presentation?)
Session	11. Community Event
Rationale	This is an opportunity to share pupils' learning experience with a wider community. Community involvement should have been fundamental throughout the course. The pupils will have an opportunity to engage the community in issues they feel are important.
Intended Learning Objectives	Pupils will have to be creative in thinking about what engages people, etc. Pupils will develop confidence sharing their own opinions with a wide audience. Pupils could also play an important role in organising the event.
Plan	I envisage something similar to what was done at Auchencairn but with more community interaction. Pupils held presentations on the reasons for choosing their research topic, thoughts about the current society and ideas for change. The presentations involved engaging performances, such as song, sketches, etc centered around a message. There was an interval and "idea trees" for each presenting group that the audience could attach "leaves/feedback". This was discussed in class.
Notes from Auchencairn	
Data Collection	Reflective journals, chats, feedback forms. Anonymous box for community feedback (thought-provoking, interesting idea of utopianism)

Appendix 6.3 (5) Details for facilitators' briefing, prompting questions for first and second focus groups (pilot project two)

Overview for Facilitators

The research is based on a belief that we cannot expect pupils to become engaged with sustainability without providing opportunities for inspiration and empowerment: unless people are driven by a vision of a better society there is very little hope for sustainable development/the future. Equally important is that this vision should not be one that is imposed but rather formed through an opportunity to: consider the context and influences shaping one's worldview; build confidence to articulate, share and justify ideas and aspirations for the future and to encourage and challenge other's ideal futures; consider how the issues discussed are relevant to individuals and understand, discuss and experience personal agency.

You can find out more about my PhD on the Wiki (that needs to be worked on), please just email me a request to join. This day in St Andrews is part of a school project potentially spanning the academic year to provide "an opportunity to explore the nature of personal and community involvement in society....to redefine the nature of society and [the pupils'] roles as change agents".

When and where: 4th of October in St Andrews

With who: approx. 45 school pupils from Torr High age 15)

If you are available and, most importantly, interested please contact me on zal@st-andrews.ac.uk and indicate which sessions you'd like to be involved in. I'm currently uploading information on the Wiki, including topic prompting sheets that you hopefully won't need. You don't need to prepare but I would love to have a quick chat with all the facilitators before the 4th. Please don't hesitate to contact me if you are confused or have any ideas for improvement. Thanks!

Sessions for the Launch

11am-12am: *Lecture given by Professor Jan Bebbington* **Old Union Diner**

All facilitators are very welcome to attend this lecture on the Earth's carrying capacity and the need to think about what kind of progress is appropriate for the 21st century.

12-1pm : *Discussion Group: Thinking about Education*¹⁵ **Old Union Diner**

1. facilitators will be asked to question what the pupils thought about Jan's lecture, for example, have they thought about these issues before? (*approx. 10mins*)
2. facilitators will be asked to question pupils about Education for Sustainability: what should schools be doing, what are they doing and is this satisfactory? Pupils will be asked to write down their ideas (on an ideal school system and how this differs from their own education) and elect a spokesperson to present back to the class. (*approx. 30 mins*)

Please aim to make sure each pupil talks about what they would change at school (and why?), whether they enjoy school, how their school is seen, whether they think it is worthwhile, what approach to teaching they prefer, including the opportunities for student lead learning, whether they think values should be taught in schools...

3. pupils will be asked to report back to the class (*approx. 15mins*)
4. I will introduce what pupils are expected to be doing as part of the project.

1-2pm: *Lunch.*

2-3pm : *Topic Group Discussions* **School II**

The second session will consist of groups working on the following "ingredients of society"/topic groups:

1. Justice and Governance
2. Entertainment/Media and education
3. Health
4. Wealth/consumption
5. Food

This session aims to help pupils develop a research plan, which will lead to debate and a presentation on their vision for a better world and how to get there. At the end of this session the pupils should have a mind map with controversial areas relating to their topic, areas that are inspiring, areas that they require more research to debate; issues that are important to them and their generation and practical ideas for "action".

Facilitators will be asked to help the pupils by: drawing on their knowledge; encouraging them to think about controversial areas; encouraging them to consider ways in which issues relate to them; asking what they want from the subject. The following questions may be referred to: Are there gaps between your ideal society and the society you are living in relating to this topic? And what relevance does this topic, and your ideas about better ways of living, have for you and the lecture on Sustainable Development?

3-4pm: *Presentation and feedback.* **(location to be confirmed)**

¹⁵ How does this link to my research?. At the end of the project (in 6 months?) we will hold a discussion about "education for sustainability" and what the pupils believe to be needed and what "works". Their presentations will be reflected on at the end of the project and serve as a focal point to discuss whether their views have changed throughout the pilot project and their views on Education for Sustainability.

This session doesn't need facilitators but you would be most welcome to come along. The pupils will be handed out resources to use when they are back in school (hopefully this will clarify the idea behind the project and what we are expecting them to do), they will be asked to present their ideas from the previous session to the class. The pupils will also have 10 minutes to discuss what they thought about the day in St Andrews and then fill in an individual feedback form.

Data Collection

A voice recorder will be available. However, if you sense that this is a distraction please turn it off. Most of the data collection for my thesis will take place back in school. However, I would be really interested (ONLY if you have time) to have an informal chat about how you felt the day went afterwards.

Why you should be involved!

I really hope you'll take part to make the day interesting for the pupils (pupils from a school that few benefit from University education) and because you are interested in what the pupils have to say. You can also see this as a learning opportunity: to develop skills (facilitation) and engage with different ideas about Sustainable Development outside academia...

Patronising reminders for facilitators

Remember to introduce yourself. I will introduce the session and tasks but please check that everyone understands.

Please try and include everyone: look for cues, make eye contact and smile.

Remember to value everyone's contribution and try not to be biased, i.e. it may be preferable to encourage by saying that a point is "very interesting" instead of "good".

Appendix 6.3 (6) Pupil feedback on expectations of, and progress during, the community involvement course in which pilot project two was delivered, expressed via feedback sheet

All pupils' written comments on expectations about programme before they started pilot project two, expressed via feedback sheet

Negative Comments	Focus on community Involvement	Other
I thought it was going to be a waste of time (Sophie)	I thought it was going to be community work (Cheryl)	Thought it was all about recycling and planning school events (Melissa)
I thought it wouldn't be very exciting (Rob)	About being involved with the community, hence its name (Rebecca)	I thought it would be more gardening than anything else (Mark)
I thought that community involvement would have been a waste of time. I thought it would be just surveys for school (Tom)	That we were mainly being involved in the community (Jade)	I thought that this programme was about recycling and planning school events (Marion)
	I thought we would mainly be involved with the community (Rowan)	I thought that it would involve recycling and once we found out that we where in St Andrews group then I know their was more (Keith)

All pupils' written comments on reasons for opting for "this elective" (pilot project two), expressed via feedback sheet

Negative towards other choice	Reference to CV	Other
The hospitality was full (Cheryl) I didn't want to do PE or hospitality (Rebecca) Wasn't allowed to do cooking and I didn't want to do PE (Melissa) I was already doing CC as a subject and I dislike PE (Jade) It looked better (Mark) I wasn't allowed to do cooking and I really didn't want to do PE (Marion)	There were no spaces and it looked good on my CV (Sophie) It would be good on a CV (Tom)	That I am into the eco-side of this, I did the eco school project so ties into the St Andrews group (Keith) There were lots of free spaces (Rowan) I had the group chosen for me. (Rob)

All pupils' written comments on their learning during the 'programme', expressed via feedback sheet

Issue focus	Generic Skills focus
Were the boxes are for recycling (Sophie) I learned about the health in Torr and Scotland in general (Melissa) The importance of energy (Mark) How important energy is in our life, how important recycling is...How hard it is to organise the group (Keith) I have learned more indepth information about health in the wider community, the effects of which drug and alcohol have on people (Marion)	To be more confident in speaking infront of others (Cheryl) More confidence to speak infront of others (Rebecca) Team work (Rowan) Working in groups and writing letters (Jade) Communication skills, organisation skills, teamwork, local involvement, planning, money handling (Tom) I have developed my team working skills (Rob)

All pupils' responses to write a press release about the 'programme', expressed via feedback sheet

It is about trying to make a change in the community and to find out peoples thoughts on the community (Sophie) Its about improving the environment around and in the community. Listening to other peoples views and doing what people want (Cheryl) Trying to make Torr a better place (Rebecca) This programme is all about trying to help improve our school community and outside community (Rowan) The programme is about.... (Melissa) The echo garden is a group designed to improve the looks of the garden, making competitions for the best garden designs (Jade) The programme is about showing the importance of energy and how to save it (Mark) The programme is about learning and helping and think that it is important and therefore it should be good if people where more interested in the project but if they don't like it then it wouldn't be the thing for them. (Keith) The programme is about building team skills and helping your community on a local and global scale. (Rob) The programme is about (Marion) This programme is all about trying to make a difference to the surrounding area. Its about looking at your position in society and try to influence others in the same way that I have been influenced by the people that I have interviewed in this program (Tom)

All pupils' written reflections on the benefits of the 'programme', expressed via feedback sheet

Focus on encouraging people to be pro-active in the community	Focus on specific issue	Other
<p>People get together and make a stand on what people want and make it happen instead of just sitting on your lazy bum (Cheryl)</p> <p>Actually doing something instead of sitting around (Rebecca)</p> <p>.</p>	<p>People from the community might want to help with garden (Rowan)</p> <p>People from the community could help with the garden (Jade)</p> <p>If more people know about the project and the importance of energy they might try and save energy aswell (Mark)</p> <p>That if people know how important recycling and that is means that people will start recycling and that the area become cleaner. They will not leave there light on if they know how much energy that is using so they would save the area (Keith)</p>	<p>It may influence other local schools to follow suit (Rob)</p> <p>It would influence people to take a different perspective in life. Help each other. And bring the community together as a close family. (Tom)</p>

Appendix 6.3 (7) Synopsis of potential documentaries for pupils as part of pilot project two.

Energy

Energy! This is our future. Through investigating the diverse issues that need to be considered when planning for our future we provide recommendations for how we should fuel our future. The video is split into subsections. How much do we care? Should we care? We introduce what's going on at Torr High for a low carbon future. We investigate how effective our education is at engaging our peers with energy and climate change and then share our own "learning journey". This documentary will be relevant to our peers but also people involved in Education for Sustainability as we provide a model for schools to learn about energy. What are the scientists working on? We share our journey into the lab and to alternative energy generating sites. We interview key Non Governmental Organisations about their thoughts on what needs to be done for a better energy system and the key issues involved from fuel poverty in Scotland (Energy Action Scotland?) to the impact of our energy sourcing outside Scotland (Amnesty International). Then we take a visit to Grangemouth armed with questions. And for those interested in creating a low carbon economy the last section investigates potential apprenticeships for the "low carbon economy". The video is one of a series of videos "change agents from Torr" produced by pupils at Torr High who have been researching the different "ingredients of society"; challenging the way things are and sharing an inspiring vision of how to create a fairer, "wiser" community.

Justice

What fires us up? What are the important issues for our generation? What needs to be done to make our community fairer? What do people really think about Torr? How does it compare with their hometowns? These are just some of the questions that will be addressed in this documentary. Conversations with people from different countries and cultures about justice and their views on Torr give rise to mutual learning and us a new perspective on whether Torr really is as bad as we think... We then document our learning interviewing people dedicated to making the world a fairer place and discuss whether their actions are relevant to us, including a visit to prison and discussions with people seeking asylum in Britain. The video is one of a series of videos "change agents from Torr" produced by pupils at Torr High who have been researching the different "ingredients of society"; challenging the way things are and sharing an inspiring vision of how to create a fairer, "wiser" community.

Health

What makes us healthy? What makes a healthy community? This is a broad topic but this documentary hits on key interests we have as pupils from Torr. We investigated local issues in Renfrewshire through talking to a doctor and interviewing our peers about the importance of, the barriers to, and responsibility for a healthy lifestyle. We then invite five different organisations working in the health sector, including mental health, to come and inspire us about their cause. Our film investigates drug addiction: including a discussion with Joe Jones about life with drugs and then drugs in Renfrewshire: how easy it is to get information and help and discuss what needs to be done and by whom.

And finally we ask would health be a better indicator for progress than the Gross National Product?

The video is one of a series of videos "change agents from Torr" produced by pupils at Torr High who have been researching the different "ingredients of society"; challenging the way things are and sharing an inspiring vision of how to create a fairer, "wiser" community.

Entertainment and Education

From the future generation of Torr, "the most dismal town in Scotland", this film presents the youths' views about, and relationship to, their own community. The journey to investigate what Torr has to offer and who is working on improving their community provides a model for others who are interested in 'Citizenship Education' and the views of our future generations. How do they spend their free time? Who are their role models? Was it better for older generations? What needs to change, if anything, for a "wiser" world? These are just some of the questions that will be addressed in this documentary. The documentary starts with their own views about the main issues shaping Torr and their generation, including a trip to the local primary school to do some "community visioning". The documentary covers a range of issues from mainstream media pressures to conversations with Councillors about local transport. The second part charts the team's challenge to set up a radio station for their community.

The video is one of a series of videos "change agents from Torr" produced by pupils at Torr High who have been researching the different "ingredients of society"; challenging the way things are and sharing an inspiring vision of how to create a fairer, "wiser" community.

Food

"One in seven people on the planet go hungry every day despite the fact that the world is capable of feeding everyone. The food system must be overhauled if we are to overcome the increasingly pressing challenges of spiralling food prices, climate change and the scarcity of land, water and energy." Judith Robertson, Head of Oxfam Scotland

This video will make people think about our food system: what is wrong with it and how to make it better. Nothing is simple: it may shock, inspire and change you. The video is split into subsections. We talk to several organisations trying to help poorer communities have access to healthy living in Scotland and debate their approach (you could interview Oxfam!) Should we think about where our food comes from? Our video will document our learning and thoughts about why we should all pay attention to where our food comes from. How much can we grow? We interview a few enthusiasts about locally grown food. Are vegetarians crazy? Do they have a point? Is there another option? We interviewed a couple of vegetarians and Compassion in World Farming about the issues of animal welfare in British farming. We sell fair trade at school. Wish to know why? We explain with a balanced argument. Quite clearly food is about power: who can afford it, who sells it. Tesco Power. Oh yes, you couldn't have found a better place to investigate what Tesco means to the community. We've invited Tescopoly, a campaign group against Tesco, and Tesco to come to the school for an interview to form our views about Tesco's role. We've also interviewed members of our community about what they think about Tesco. And what about the waste? We investigate how much we waste and what is being done about it. if anything. The documentary promises to be jam packed with an introduction to thought provoking issues to rethink the role of food in creating a fairer, happier future. The video is one of a series of videos "change agents from Torr" produced by pupils at Torr High who have been researching the different "ingredients of society"; challenging the way things are and sharing an inspiring vision of how to create a fairer, "wiser" community.

Appendix 6.3 (8) Mid term pupils' feedback on the second pilot project, expressed via feedback sheet

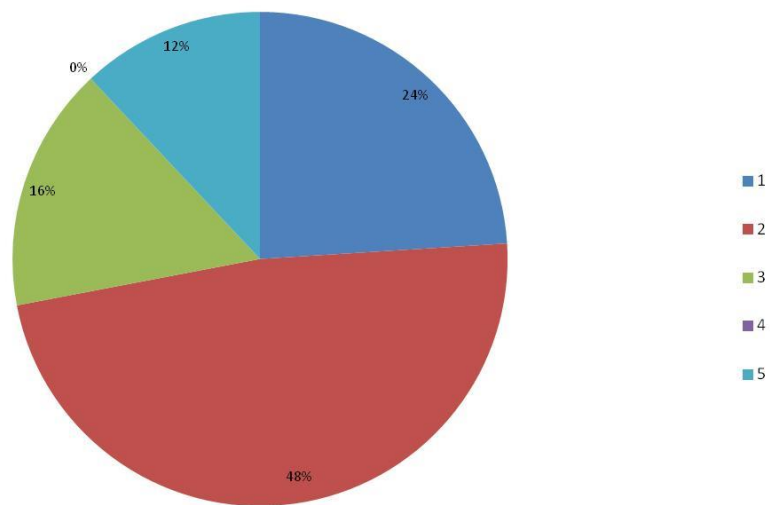
Mid Term Feedback

Understanding

Q1. Do you understand Zoe's reasons for doing this project?

1= yes, I understand

5= No, I do not understand

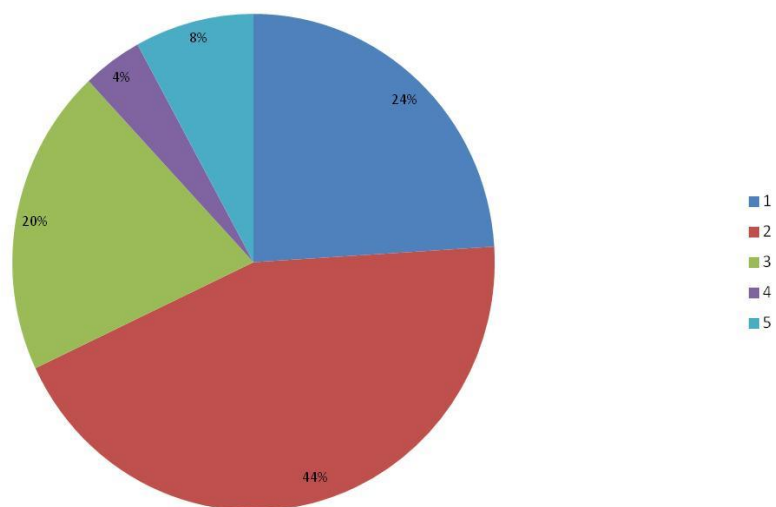


Progress

Q2. Are you happy with the progress you have made in the St Andrews Groups?

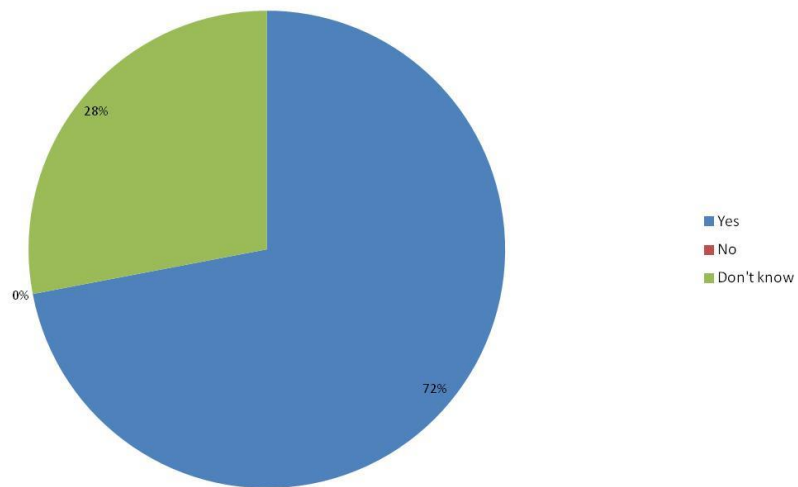
1= yes

5= No

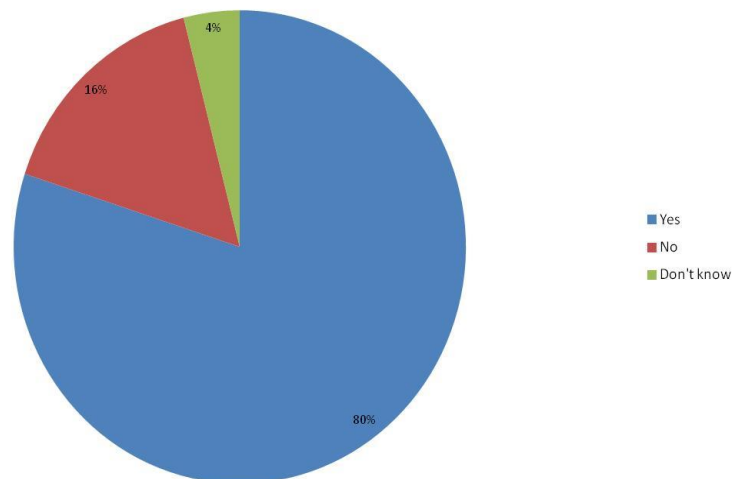


Impact

Q3a. Are you learning anything that will be relevant to you after school?
(team work thinking about issues that may influence your choices after school, confidence etc)

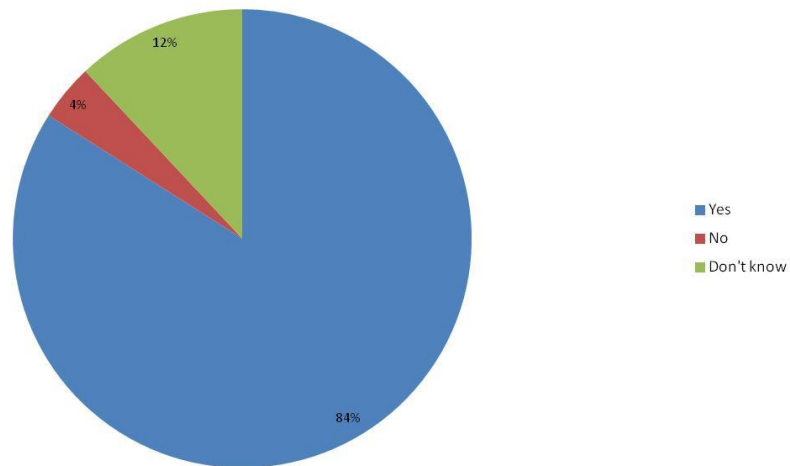
**Impact**

Q3b. Has working in the St Andrews group challenged your way of thinking about an issue?

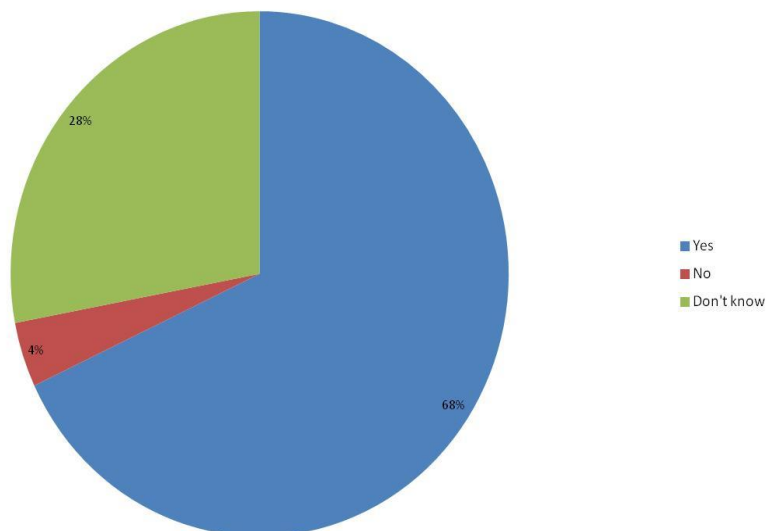


Impact

Q3c. Have you shared your ideas and tried to influence someone on what you think would make your community better (for example, a class mate, Councillor, friend outside the classroom, etc)

**Support**

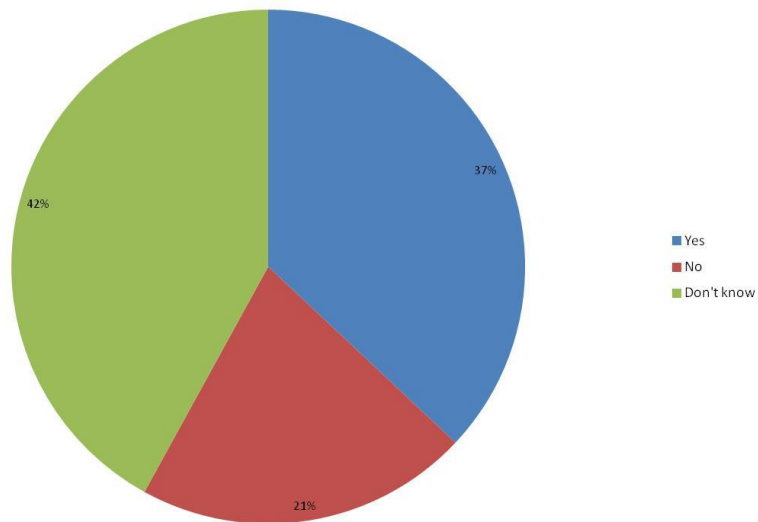
Q4. Do you think the project should be repeated with another class?



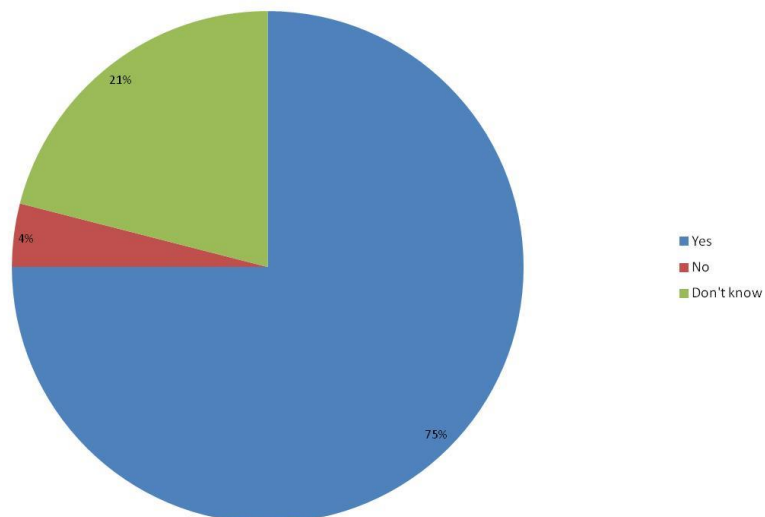
Appendix 6.3 (9) Final pupils' feedback on the second pilot project, expressed via feedback sheet.

Final Feedback

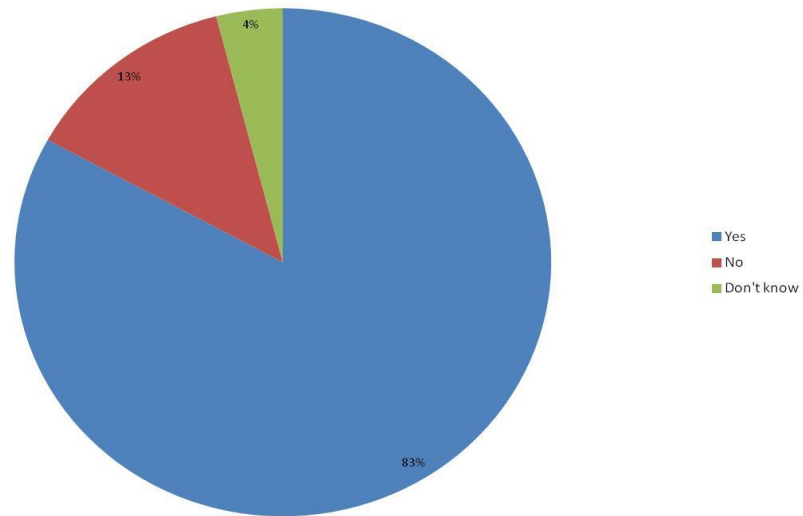
Q1. Based on your experience of the course booklet, do you think think we should ask the Scottihs Qualifications Authority if this could be a subject?



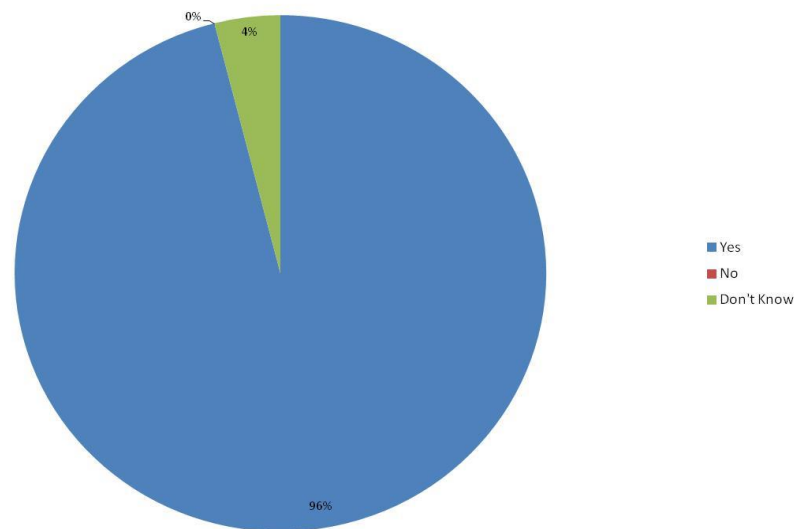
Q2a. Do you agree that the community involvement course required taking initiative?



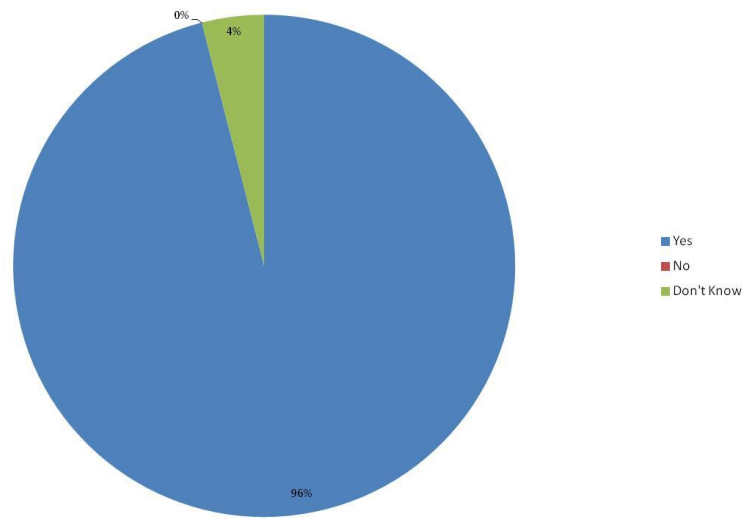
Q2b. Did the community involvement course give you a chance to learn about something you were interested in?



Q2c. Did the community involvement course make you think about ways for local and global improvement?



Q2d. Do you think the community involvement course was valuable?



Appendix 6.3 (10) Course resource written after the completion of pilot project two



Inspiring Change

"The future is not some place we are going to, but one we are creating. The paths are not to be found, but made, and the activity of making them, changes both the maker and the destination". (John Schaar)

Contents

Introduction

The thinking behind this programme

Programme Aims and Objectives

Key Points for successful completion

Checklist of Coursework

The Sessions

Examples of documentaries for each topic

Calendar

Recommended reading

Part 1: "Get Interested"

Session 1: Introduction ☐

Session 2: What is on your mind? ☐

Session 3: Education: a powerful tool ☐

Session 4: Who you are ☐

Session 5: Team Building ☐

Session 6: What matters? ☐

Session 7: University Trip ☐

Session 8: Review and Getting Started ☐

Part 2: “know your stuff”

Session 9: Work on your proposal ☐

Session 10: Class presentation on research proposal ☐

Session 11: Interview and Filming Workshop ☐

Session 12: Research ☐

Part 3: Inspiring Change

Session 13: Preparing for the presentation ☐

Session 14: Presentations and class feedback ☐

Session 15: Mid Review: Reflection and Evaluation ☐

Session 16: Class debate: thinking about the final event ☐

Session 17: Class based work or preparation for sharing ideas ☐

Session 18: Final Review ☐

Introduction

This project is about providing you with the time and resources to

- Think and challenge how society works and how to bring about change.
- Work towards improving our community (and the wider world) by:
 - Making people aware of important issues you feel are wrong and should change
 - Sharing ideas that would make your community/ the world better
 - Taking direct action
- Developing skills and experience for your CV
 - Potential skills include: team work, presenting skills, leadership skills, research skills, time management, reflective writing skills, debating skills, etc.

You will be expected to inspire, challenge and teach people about issues you think are important and make recommendations for a better future. Each group should have a clear message for why we should, and how we could, improve their community/world.

The Thinking Behind the Programme

What do you think?

What's wrong in the world? What's right with the world? Do you have a role in improving your local community and the wider world? Who is responsible? How do we go about making change happen? Are educated and wise the same? Should they be?

This pack has been put together with the understanding that:

- There are many environmental and social problems and the world could be a better place.
- It is just as important to develop thinking, questioning, inspired people who will take initiative as people that excel in specific subjects.
- Spending time to question and research “the way things are” and the “way things should be” is important but easy not to do.
- Everyone has an impact and can participate in creating better communities and a better world.
- Encouraging people to think and discuss their ideas is a better (more sustainable) way of changing the world than telling people what to think and what to do.
- It's better to get inspired by an idea for improvement than just focus on making things less bad.
- Schools should be places of learning not just for pupils: you should get your voices heard beyond the school walls.

Programme Aims

For you to:

Think about your role in, and who is responsible for, making change happen in your community and the wider world.

Become interested in improving your community (and the wider world).

Become confident you have the know-how to be an “active citizen”

Develop research skills and be able to justify your opinions related to your ideas for change.

Share your views on important issues, challenge yourself and others, get inspired and inspire (peers, community members and decision makers)

Gain experience in the “real world” and develop/demonstrate key skills useful for life after school.

Ultimate goal:

To create a society where people question the way things are and are excited about improving their local communities and the wider world.

A world where people:

“feel as if they have a say in what is happening in their local communities” (Cathy)

“take an interest in the consequences of their actions even although this might be out of sight (for example the conditions of the banana trade industry)” (John)

“we realise we depend on, and share this one planet and so must respect the environment and re-think our use of resources” (Hannah)

“don’t just focus on personal financial gain but care more about what’s happening to other people” (Mona)

“trust one another and have a say instead of companies having more power than people”(Peter)

“appreciate how local communities are connected with the wider world and how the economy affects the environment and impacts on social justice” (Jenny)

Programme Objectives



Discuss and research how to improve your local community and the wider world

Think about how to put your ideas into action and your role in making change happen.

Spread your ideas, challenge and inspire: peers, community members and decision makers

This is challenging! Therefore the programme has been split into flexible group topics: the “ingredients of society”(see box 1). You will be asked to research an issue in this area that you think is important and relevant for your generation and improving your local community.

After several weeks of research as a group, you will be expected to share your recommendations for improvement with others: class members, community members, decisions makers, etc. You can decide to share you ideas with a presentation, through a school magazine, by making a documentary, taking part in a radio programme.

This pack aims to help you get started. It’s up to you and your teacher whether you spend the whole year becoming an expert in one topic or whether you move between the topics after completing a project or deciding you are in the wrong group.

- Justice and Governance
- Entertainment/ Media and education
- Health
- Energy
- Food

At the end of your research period you should be able to talk about:

- 1) key issues that you feel strongly about under the topic heading,
- 2) justify the problem and why it is an important area to think about,
- 3) your recommendations for improvement and who is responsible for making this change happen and
- 4) what relevance this issue has for you.

Key Points about the programme

Beyond School



Depending on the quality of work this project could have an impact not just on your learning but in your local community and beyond. You will be asked to think about community members and people with a cause/inspirational people you would like to meet: either because you want to learn more or tell them about what you think. The extent the programme works beyond school depends on your initiative.

Taking Initiative: Your Research and the role of the teacher.

This will be challenging. Identifying a research area and questions to guide your research will require much thinking and everyone taking this programme should be aware that your teacher will not tell you what to think. At the end of your research you will probably be more knowledgeable about your area than your teacher. The role of the teacher is to help structure this programme and help you take learning into your own hands. You will not get anything out of this programme unless you make an effort. Remember to report back to your teacher if things are not working or if you have suggestions for improvement.

Reflection and your Opinion

You will be expected to reflect on, and share your views about, the programme and on your research findings. In addition to completing feedback forms, you will be expected to write an update in your sketchbook every week. Your teacher may ask to see these sketchbooks.

Providing feedback will:

- help ensure everyone understands what they are doing
- allow the programme to be adapted depending on your recommendations and needs
- help you develop/demonstrate critical thinking and reflective writing skills.

Team work

Group work is key to the success of this programme. As many of the topics overlap, ideas can be shared in the class on each project. This is why you will have a team building activity at the start and when you are working in groups each group should have a team leader and facilitator (see session 7).

Certification

You will be rewarded a certification from St Andrews University if you submit the following course work and are able to justify why you merit a certificate through completion of a worksheet.

The deadlines for completion of the coursework should be given to you by your teacher at least 2 weeks in advance.

Checklist of coursework

Checklist for Coursework required for Certificate and dates

- Show your teacher your sketchbook.
- Who you are: A letter or Artwork (session XX)
- 150 words (minimum) on your personal aims (session XX)
- Mid Review Feedback Form
- Final Review Feedback Form.

The Sessions

Session 1: Introduction

Aim: introduction to programme

Discuss the aims of the Inspiring Change programme and look at work that has already been produced as part of the programme by previous year groups. You will be asked to comment on this work and consider how it could be improved. All documents were made to engage people in thinking about how to improve society.

You will all be given a sketch book. Please spend 5 minutes at the end of each session writing down ideas on how you are progressing and whether you think sessions were valuable or not.

Your teacher will hand out consent forms to ensure you have permission to work outside school and potentially take part in making short video clips.

Session 2: What is on your mind?

Aim: start thinking about the state of the world and make a record of your starting point so that at the end of the programme we can discuss whether any of your views have changed.



Thinking beyond our local communities raise issues that are relevant to your own communities as we all share the one planet!

Discuss and make a list in groups of:

5 key priorities to make a better world

Or

Your concerns and prioritise them.

Session 3: Education: a powerful tool!

Aim: start thinking about the role of education and the importance of school.

Discuss the following questions in groups. Elect a scribe (someone to make a note of your discussion) and a spokesperson to report back to the class.

Initial Views.

Do we as a society (especially your generation: 14-18) think as much as we should about how the world is developing? Do you think this is important?

Do you think your generation should be listened to or do you feel satisfied with the way things are present?

If you think it would be a good idea for people to care more about the world please list different ways of making that change happen.

1. On Education: the point

Firstly, what do you think education is for?

preparing people for fitting into society? ☐

helping people think about how to create a wiser society? ☐

Both? ☐

What should it be for?

What is the role of the teacher?

2. What happens in school?

Please think about similar activities that you do in school that focus on trying to make the world a better place. Please make a list. (fair trade, recycling, eco-schools)

Are these popular? Why/ Why not?

Are these important?

3. Your ideal education

Are there any changes you would make to your education system?

Session 4: Who you are

Aims: represent who you are (either through a piece of artwork or a letter written to a stranger) so that:

- at the end of the programme you can return to this work and think about whether any of your views changed or whether you became interested in additional issues.
- your teacher can help make the programme relevant to your interests.

Short letter

Write a short letter explaining who you are, what you are interested in, what you want to do and what you wish to get out of the inspiring change module.

Artwork

Start work on your artwork to represent visually who you are: remember you can use photos and words.

Session 5: Team Building

Aims: to provide a fun start and focus on the importance of class bonding and teamwork.

Session 6: What Matters (may take 2 classes)

Aims To start discussions about what's happening in the world.

To help you think about ideas for your research projects

To help prepare for the St Andrews trip

This session should help you prepare for the trip to St Andrews University (see session 6).

Look at newspapers and identify issues that you think are shocking or inspiring and think about how the issues relate to the different topic headings. Please organise the newspaper clippings under the topic headings and start to discuss your opinions about what should be done to change things for the better.

The discussions and your research projects won't be restricted to what appears in the news but it may help some of you start to think!

Session 7: University Trip



Aims:

To get started with your research projects and develop a plan of action to work on when you are back at school

To provide an opportunity to discuss views beyond the school with people interested in research

Plan of action for the day:

- 1) Short introduction to the Sustainable Development course at St Andrews (15 mins)
- 2) Work in small focus groups and discuss: What is important for a great community, what you like about your own community, what you wish to change and whose responsibility it is to make that change?
- 3) You'll work in small groups with a university student to discuss what could be investigated under the topic headings (see pg 3).

Everyone should have the chance to work in all the topics for a 30 minute brainstorming exercise.

You should leave St Andrews with initial research plans for each topic including

- areas that you already feel strongly about
- controversial areas relating to the topic
- areas that require more research for you to make an informed opinion
- issues that are relevant to your life

And

- how you could build on your ideas to have an impact
- how you are going to research your area

There will be breaks and at lunchtime you have a 45 minute break to explore St Andrews. Lunch will not be provided. At the end of the day the facilitator will try and "sell" the topic and summarise all your ideas.

Session 8: Review and Getting Started.

Aims: Form the groups.

Elect a group leader and facilitator.

Start preparing for a presentation in groups.

Review the topic mind maps and split into the topic groups that you wish to work on. In approx 5 weeks you will be given the opportunity to change groups.

Electing a group leader and facilitator will make it easier for the teachers to keep updated about what each group are working on and how they are progressing. It is up to your group on whether you would like to take turns being a group leader and facilitator. The suggestion is that you take turns.

Role of the group leader:

- *To ensure all the group members understand the project and have a role in the group*
- *To ensure you are on track with your plans*
- *To take responsibility for communication outside the school if other group members are not already on top of this.*

Role of the group facilitator:

- *to make sure everyone has a say and is respected.*
- *to make sure everyone is happy with how the group progresses*
- *to take attendance and report back to the teacher.*

Discuss your plans for a group presentation (10 minute), you will be expected to give in 3 weeks, on your proposed plan of action covering:

1. Why the topic is interesting and relevant.
2. What you plan to investigate and why this is valuable
3. How you plan to do your research, what methods will you use to do your research (questionnaires, interviews, internet research)?
4. Contacts you are hoping to meet/interview
5. Visits planned and extra needs: computer room: camera, voice recorders, etc
6. Timeline and a story board
7. How you will share your learning (newspaper articles, short documentary, presentation at a coffee morning, presentation to your MSP)

Your presentation does not need to be in this order. Ensure everyone presents as this will be good practice for presenting to different audiences. Your classmates will comment on your presentation (see session 10).

Homework: Setting your personal aims. Please write a letter to your teacher about how you understand the project, what you think of the aims; what you want to get out of this project and what is required of you to achieve your aims (approx. 150 words).

Session 9: Work on your proposal (these sessions could be extended if you need more time)



Aim: ensure your project is organised through preparing for a presentation.

Session 10: Class presentations on Research Proposals.

Aim: Develop presentation skills

Receive feedback from class on your ideas

Give ideas to other groups about how they could improve on their research proposals

Each group will have 10 minutes to present and then a short discussion will follow (see session 7 for the presentation requirements).

The class should provide constructive criticism to other groups. Your teacher will give out feedback forms to guide your feedback with the following questions:

- 1) Did the presenting group cover all 7 points outlined in session 8?
- 2) Did the presenting group have, or would have, a message for making either the local community or wider world a better place at the end of the project? This should include suggestions for how to bring about the recommended change.

Session 11: Interview and Filming Workshop.



Aim: you will be given tips on filming, editing and interview training.

Session 12: Research (suggested time: 5 weeks)



Aim: Do your research, form your own opinions and make convincing suggestions for improvement.

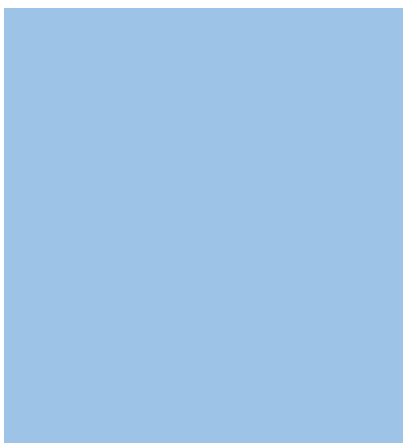
Every day you will have the option of looking at the newspapers for 15 minutes maximum.

Top tips:

The Research Project: have a plan!

Identifying an area to research and your main questions is challenging. It will help if you write a clear reason for why you chose the particular area; what you hope to do and why this is valuable. You should refer to the notes you made for the presentation. Look at the criteria for the certificate (session 18) and ensure that your plan will help everyone achieve a certificate.

When contacting people to interview



Ensure that when you are contacting people you want to interview you:

Introduce yourself (who you are, a brief introduction to the Inspiring Change Programme, what you are doing, why you would like to interview them)

Organise in advance, many people have full diaries

Be polite

Don't be disheartened if you don't get a response

Ensure you have questions prepared

Send a thank you letter

Your Opinions and Reflections

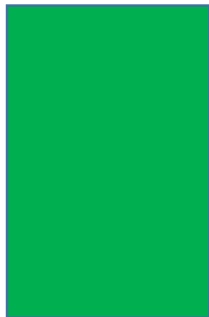
Remember to include your views on your research findings and engage people about why your chosen topic is important.

Seek out Opportunities

If you are not interested in an area then get into a group you would be interested in.

This could be a good networking opportunity for work experience so maximise the opportunity for “real world” research.

Your MSP and Local Councillor



Your MSP and local councillor will be involved in this project. You will have to discuss with the class when would be best to invite them to the school. Ensure that all groups can give an overview on what they are working on and why it is of value. Ensure each group has at least one suggestion/ question for the local councillor relevant to their topic to create a good impression that you are interested and opinionated class.

Keep the class updated



If you decide you will invite someone into school that you expect other groups would like to talk to ensure that they are aware of the visit. Perhaps, you feel the whole class would be involved. Ensure that the teacher and class are OK with this.

Sharing your views

Make the most of your research. There are several opportunities to share your views:

newspaper articles, short documentary, presentation at a coffee morning, presentation to your MSP....

Editing: Don't forget editing takes ages!

Session 13: Preparing for the presentation

Aims: prepare for a presentation (see following session)

Discuss as a group how you are progressing

Clarify your future plans

Session 14: Presentations and class feedback. (2 classes)



Aim: Develop presentation skills,

Receive constructive feedback from the class,

Teach others about your findings and discuss important issues as a class. Provide feedback to others

Each group will have 10 minutes to present and then a 10 minute discussion on controversial areas or finding out what the class think about your research.

Present on

1. how you are progressing with what you told the class in your last presentation.
2. your findings to date
3. personal learning and challenges
4. future plans
5. controversial areas that could provoke a class discussion.

The class should provide constructive criticism to other groups. Use your sketchbook to note comments on other groups presenting.

1. Whether they agree with your message
2. Suggestions for improvement

It will be up to you whether you ask your class members for feedback.

Session 15: Mid Review: Reflection and evaluation

Aim: Reflect on individual progress to demonstrate reflective writing

Provide feedback to teacher on how to improve the programme

Provide feedback to your teacher to ensure everyone is understanding and participating in the programme.

Please look at the homework you submitted on what you wish to gain from the Inspiring Change programme. Your teacher will give you a mid review feedback form with the following questions:

How you understand the Inspiring Change Course

How you understand your topic work

Whether you are satisfied with your progress and why

What are the main challenges and opportunities you have faced

What improvements could be made to the programme

Your suggestions/needs for the next few weeks

- should you work in the same group, change groups, or individually

- what are your suggestions for a final event

Session 16: Class debate: thinking about the final event (5 weeks)



Aim: decide as a class on the plan of action for the following weeks.

By now, you will hopefully have research you are proud of and should share.

In this session you should discuss:

1) Whether you would like to work in a different group, individually or the same group.

2) How to take the class forward for a final

event and who would you like as an audience?

One suggestion is that you hold a community event and ask people to comment on your research. Perhaps you would like to come back to St Andrews or arrange a coffee morning for your community.

This will require substantial levels of organisation and preparation. Things to think about:

An introduction and conclusion for the event

Displays: review everything you have done and use photos to make a powerful, inspiring display.

Polished presentations with PowerPoint or videos made by you.

Questions for the audience

Invitations to parents and the community (letters, posters?)

Invitation to decision makers

Food and drink

Music (?) and venue

Sessions 17: Class based work and research or preparation for bigger event (to be decided)

Session 18: Final Review

Aims: reflect on progress

Give suggestions for improving the programme

Justify why you deserve a certificate.

Please fill in the final review feedback forms before the end of the year. You will be asked to justify why you deserve a certificate.

You will be asked:

- 1) What you achieved as part of the Inspiring Change programme?
- 2) Whether you demonstrated initiative and to give an example?
- 3) Whether you carried out research?
- 4) Whether you worked as a team and individually?
- 5) Whether you presented on your views?
- 6) To ensure you submitted the required course work for a certificate demonstrating reflection.